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THE ARGIVE HERAEUM



CHARLES WALDSTEIN

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THE ARGIVE HERAEUM

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HENRY STEPHENS WASHINGTON, AND JAMES RIGNALL WHEELER

IN TWO VOLUMES

VOLUME II

TERRA-COTTA FIGURINES, TERRA-COTTA RELIEFS, VASES AND
VASE FRAGMENTS, BRONZES, ENGRAVED STONES, GEMS, AND IVORIES,
COINS, EGYPTIAN, OR GRAECO-EGYPTIAN, OBJECTS



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NOTE

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PREFATORY NOTE TO VOLUME II.

IN the preface to the first volume of this publication I expressed my regret at the delay in bringing before the world the results of our excavations which were completed in 1895. I also regretted that we were obliged to issue the first volume before the completion of the second. I then thought myself justified in announcing that the second volume would "follow within a few months." Circumstances over which I have had no control have extended this period of a few months to what will now in all probability exceed a twelvemonth. As in the case of the first volume I deplore this, not only because it has kept from the archaeological world the material which we have to offer for study, but also because full justice cannot be done to my collaborators, especially to Dr. Hoppin and Mr. Chase, whose work has been completed and in type for several years. Quite apart from the question of priority with regard to the antiquities we have excavated as well as the deductions we may have drawn from them, the work of my collaborators may not be justly appreciated when considered in the light of more recent discoveries, — I mean those that have been made since our excavations were completed. I have in mind especially the important discoveries made in Crete, Melos, and the more recent excavations of Thera. In any case, the complete and final publication of the work on those sites was not available for our purposes; while in the case of Crete, notably of Cnossos, the excavations themselves have not been brought to a termination, and the material furnished does not present itself in a form admitting of final conclusions and general deductions. Still, it may not seem right that, covering as we do similar fields of inquiry to that of recent work on other Aegean sites, we should not have considered at least the suggestions which they offer in the elaboration of our own material; and it may not be unfair to criticise us for not having redistributed all the type set years ago and rewritten all that had been written. But I venture to think that the scientific value of the archaeological material which we here offer in our publication, and even of the conclusions which we have drawn from the study of them, is increased by the fact that in our study we have confined ourselves to what was actually before us in our own material, and to the definitely published results of the work that had preceded us. Whether our results as here published are confirmed, rejected, or modified by those of future excavators and inquirers, our exposition can but gain in its claim to trustworthiness from not having been biased by premature side-glances at the foreshadowed results of contemporary excavation; while those who must elaborate the discoveries made since our own will be able to make the better use of ours in their independent presentation, even if this use should be to controvert our conclusions.

A similar explanation may be called for with regard to the fact that we have not

considered the work done since our excavations were completed on wider questions of historic and prehistoric archaeology, in which our own material must find a place as evidence. These include especially the wide and complicated problems of the earliest ethnology of the ancient world, together with the greatly expanded study of Hellenic and primitive mythology. The whole question of the Mycenaean age and the periods that preceded and followed it has entered a new phase, owing to the remarkable work done by such writers as Professor Ridgeway and Dr. J. G. Frazer, and to the cognate discoveries and inquiries of explorers and scholars like Professor Flinders Petrie. I have been directly criticised for not having, in my General Introduction in the first volume, clearly taken sides on the main issues raised by such important inquiries. Dr. Rouse, in his review of our first volume,¹ says: "Dr. Waldstein has not thought well to examine the bearing of this book (Professor Ridgeway's *Early Age of Greece*) on his Introduction, part of which might have been modified by it. He does indeed mention Professor Ridgeway in a footnote, not without approval; but there was time to have formed a more definite opinion than he gives on the new theories, whether to accept them or to reject." Now, all that I have urged above regarding the undesirability of entering into wider inquiry beyond the range of our own material in this publication applies still more emphatically to the questions raised by Professor Ridgeway's bold and far-reaching work. I wish in no way to discourage this stirring expansion of the study of classical antiquity into wider spheres, where it establishes its immediate relationship to general ethnology, — nay, to anthropology. The day may come when all our views of the early history of man, including the peoples of Ancient Greece and Rome, will present a picture containing a full and organic composition instead of the smaller groups and single portraits which we now have before us; and when the whole image of the past in the eyes of our posterity may gain in truth and even in clearness. But to my mind this day has not yet come; because the material for such wider generalization, which we may reasonably hope for in the future, is not yet to hand. Excavations, not only in Egypt, in Assyria, in the whole of Asia Minor, in the northern portions of Ancient Greece, in the islands of the Aegean, in Sicily and in Italy, but also in many other centres of Europe and other parts of the world, will have to yield their treasures of the past, before a great genius, happily arising, is prepared to fuse the disjointed ingots of evidence together, at the slow and steady fire of sober yet imaginative induction, into the great and malleable bar of precious metal out of which the monumental forms of truth are forged and cast. In the mean while, however, truth is advanced by a select few who form legitimate scientific hypotheses in presenting theories by means of which, for the time being, we can in some way grapple with the vast mass of material before us. But in presenting the results of our excavations of one site, and in drawing our conclusions from the material before us, we are emphatically not called upon to take sides on problems of much wider issue, the solution of which may ultimately be furnished by our facts and our exposition.²

¹ *Classical Review*, October, 1903, p. 368.

opinions tended to support those of Professor Ridgeway,

² I think it right to state that wherever my results and

they were on my part arrived at quite independently

Still, since the first volume was published, the final and official publication of *Troja and Ilion* has been issued by Dr. Dörpfeld and his collaborators. Furthermore, the work done and the wonderful results attained by Dr. A. J. Evans and his colleagues in Cnossos of Crete, as well as that of Professor Halbherr and his colleagues at Phaestos, though the excavations are not completed, have led to preliminary publications in which final conclusions have in some instances been drawn which bear directly upon essential points of our discoveries at the Argive Heraeum. As the conclusions thus arrived at by the excavators of Cnossos seem to militate against my main contention with regard to the Argive Heraeum, I feel that I must in a few words touch upon this question, even at the risk of being premature.

I claimed præminent importance for the Argive Heraeum, because, as compared with sites like Troy and other early "classical sites" including Crete, it was one about which there could be no doubt in regard to its intrinsic association from the earliest times with what is to us Hellenic life; while, on the other hand, in contradistinction to Tiryns and Mycenae, which only present definite periods in the development of Hellenism, the Argive Heraeum was continuously, in all ages about which we know anything, an important centre of that life. I maintained, and I still maintain, that our excavations have yielded material giving undeniable proof that this site was occupied in what is commonly called the Neolithic period. By an oversight the first volume contained no illustrations of stone implements found in our excavations. I wish here to supplement this deficiency by inserting specimens of such Neolithic articles of use.



STONE IMPLEMENTS FROM THE ARGIVE HERAEUM.

From the Neolithic age onward there is abundant evidence of a continuous occupation of that site, be it as a citadel or as a temple, down to Roman times. I wish here to emphasize more strongly than I have done in the first volume that the earliest walls and dwellings, together with the stone implements, confirm the tradition which I maintained¹

from him. Any suggestion I received from him has been duly acknowledged; just as he has acknowledged, both in his article in the *Hellenic Journal* in 1896, as well as in his book, the cases in which I enabled him to consider

some of our material before publication. We are neither of us responsible for the other's views and conclusions.

¹ *Classical Review*, December, 1900, pp. 473 ff.

is given in Bacchylides (xi. 43-84), that the site of the Temple of Hera was also that of the Pre-Proetean citadel of Argos. On every side there is thus evidence of a Pre-Mycenaean civilization at the Heraeum; and in tradition, monuments, and minor works we have there an illustration of the systematic origin and organic growth and development of the Mycenaean civilization and the periods following it. No doubt there is evidence (which moreover we should *a priori* expect) of waves of foreign influence. But the main current of civilization leading up to the Mycenaean age, through it and beyond it, is central and continuous on the site of the Argive Heraeum. As far as our evidence goes, there is no reason for assuming that the Mycenaean civilization came to the Argolid from without, and that it was not continuously developed in that centre of ancient life.

Now, the conclusions which Dr. Evans has drawn from his Cnossian discoveries tend to make Crete the earliest focus of Mycenaean civilization from which it radiated to other parts of the world, including Greece Proper. Mr. Mackenzie, moreover, in a very ingenious and able article¹ has endeavored to prove this definitely by the evidence of the vases found at Cnossos. He maintains that the evolution of the Mycenaean ceramic style out of the Kamares ware, which again is evolved from Cretan Neolithic ware, is to be found in Crete. He further maintains that from Crete it found its way into the Argolid and the other parts of the ancient world. In short, it is maintained that Crete is "the cradle of the Mycenaean, and hence of Hellenic, civilization."

This seems to me improbable. Moreover, if it were true, my own conclusions with regard to the position of the Argive Heraeum would be unfounded. In spite of the prematurity of any attempt to arrive at a final decision on the nature of the Cnossian excavations while they are not yet completed, and before the objects there found have been subjected to a thorough examination in their completeness, I wish, in view of the partial publication of such conclusions on the part of the excavators, to enumerate briefly my doubts, and to commend them to the consideration of the Cretan explorers.

On the one hand, I do not doubt of the ample evidence as to the early settlement of the Cnossian and other Cretan sites in the Neolithic period, and I view favorably Dr. Evans's suggestion of a chronology reaching back much farther than we have hitherto been wont to conceive, namely, well into the third and even the fourth millennia B. C. As Dr. Dörpfeld has admitted, the earliest layers of Hissarlik distinctly point to such remote ages; and I have always expressed my belief that we should have to go much farther back when looking for the beginnings of early Greek civilization.

But, on the other hand, we are informed that the objects on the Cnossian site end with the Mycenaean period, that there are no objects belonging to a later date found there, and that therefore the life they reflect antedates that of the sites in Greece Proper, and that the Mycenaean civilization found in the latter is derived from Crete.

It is now some years ago² since I expressed the view that it is a mistake to believe that the Mycenaean and Geometric forms of art production ceased in all parts of Greece at the same time, and were superseded in the same period by the archaic forms of

¹ *J. H. S.* XXIII. 1903, pp. 157 ff.

² At a public meeting of the American School of Athens in 1892.

distinctly "Hellenic" character. It then appeared to me that, especially in ceramic art, the familiar polychrome, black-figured and red-figured vases never became the indigenous manufacture of certain portions of the ancient world; but that the Mycenaean and the Geometric forms of ornamentation as well as the so-called "Proto-Corinthian" (our later Argive-Linear) maintained themselves long into the historic period. Of this survival, this persistency of earlier styles, Crete seems to me a most probable instance. Though the Cnossian city reach far back into the remotest antiquity, and nothing later than Mycenae ware has as yet been found there, we must at least await the completion of those excavations and those of other Cretan sites before we exclude the possibility, nay, the probability, that the latest of the "Mycenaean" remains at Cnossos reach far down to the gates of the historic Greek periods when elsewhere in the Hellenic world other Hellenic forms had been developed. The grounds for my doubt in the face of the mass of evidence which is even now adduced by the Cnossian excavators are based upon the intrinsic character of this evidence itself.

To begin with the more general point of view (though I cannot enter upon a minute critical estimate of the ethnological "evidence"), the confused tangle of ancient tradition concerning the early inhabitants of ancient Crete,—the Eteocretans, Pelasgians, Achaeans, Dorians, the Carians, Leleges, and their relation to the Lycians,—does not point to a unity of organization and civilization which could have produced the Mycenaean style foreshadowing the typically Hellenic art.

Moreover, I cannot feel that the literary traditions concerning the Minoan Cycle in any way warrant us in assigning a central position to it in the formation of Hellenic tradition. In its relation to the established and predominant body of earliest tradition it partakes of what I should like to call an "episodical" character. We can conceive of the organism of Hellenic myth and heroölogy retaining its organic character if this cycle were expunged. An intimate connection with Greece Proper, so as to suggest an essential influence in the form of civilization, is not manifest, certainly not as regards the Argolid. The only real point of union in this sphere is with Attica in the Thesean story; and here it is of a passing nature, indicating a war which implied no conquest or lasting occupation of the country. On the contrary, the balance of evidence in the tradition of Daidalos points, as regards art and style, rather to an influence from the mainland (in this case Attica) upon Crete, than from Crete on Greece Proper. This is quite different from the wave of influence which we can clearly trace in sculpture in the Daedalids, the so-called Ionian period, when we are at the very gates of the Historic period.¹ In fact, I cannot help feeling that the Minoan and Thesean tradition is comparatively late, as the complex elaboration of the tradition concerning the life and deeds of Theseus and his worship bears traces of *contaminatio*,² and points to a late date compared with the body of Greek myths and heroölogy.

There was one period when the influence of Crete upon the mainland of Greece was

¹ See my article on 'Dédale et l'Artémis de Délos,'
Rev. Archéologique, December, 1881, pp. 321 ff.

² Cf. *Essays on the Art of Pheidias*, pp. 254 ff.

paramount, when accordingly the life in Crete, especially at Cnossos, must have been most thriving and have manifested itself in active art-production. This is the period which in the history of sculpture we call the Ionian period: when the craft of making temple-statues, the profession of the ἀγαλματοποιός was really established and introduced from these centres into Greece Proper. According to the literary traditions the chief centres whence this art sprung were Crete, Chios, and Samos. The activity of these schools of sculptors, immediately derived from Daidalos (in my opinion *the historical* Daidalos), and the most effective transmitters of this skill, were the Cretan Daidalidae, Dipoinos and Skyllis. These we can trace in their journeys through the Greek continent engrafting their craft at Sicily, through the Peloponnesus, and as far north as the Aetolian Ambracia. Is it not startling to find that of this period, corresponding to the orientalizing wave in ceramic art in Greece, concerning which we have undoubted evidence as to the predominant position of Crete, not a single trace should have been found, especially in such centres as Cnossos? Is this conceivable? Are we not justified in asking for some reasonable explanation of such a singular phenomenon? And may I not suggest that, *however early some of the Cnossian remains and the earliest building may be*, some parts of the palace, especially its plastic decoration in stucco as well as some of the wall-painting, belong to this later historical period? We need not expect to find "archaic Greek" objects there, unless they were imported; but the native orientalizing style, which presents a continuous survival of the Cretan-Mycenaean art down to these later historical times, we can expect.¹

But let us turn to the more specifically archaeological evidence.

(1) The architecture of Cnossos in its "Minoan" periods appears to me to be of a distinctly later date than the Cyclopean structures of Tiryns and of those parts of the Heraeum of the "Tirynthian" period — *a fortiori* the earlier walls of more primitive settlements. If the Cnossian walls correspond most closely to the sixth layer of Hissarlik-Troy, it stands to reason that the earliest Heraeum walls, which correspond to the first, second, and third layers of Hissarlik, are distinctly earlier. The walls of the Heraeum present a continuous development from these primitive beginnings through all ages to the later Roman period, and thus admit of no break or hiatus.²

¹ Since I wrote the above, my attention has been drawn to a passage which I overlooked in Mr. Evans's Report on the Excavations of the Palace of Knossos in the *Annual of the British School at Athens*, vii. (1900-1901), p. 118 ff. In it is an account of the find of "bone 'fish'" upon which were incised signs. "Out of twenty-one varieties, ten are practically identical, both in shape and position, with later Greek alphabetic forms, while four more are the same, though in a different position. Thus we have Δ, Λ, Η, Ν, Ξ, Π, Ρ, Υ, + and a form approaching the digamma, etc. . . . Yet the Mycenaean date of these bone pieces is as well ascertained as anything found within the walls of the Palace." I must ask: What is the "Mycenaean date" here referred to as an established

fact? The date of the "later Greek alphabet" we do know. Do not these later Greek objects speak rather in favor of my view, that the Mycenaean style survived in the Palace of Cnossos down to historical Greek times?

² Quite recently Professor Noack (*Homerische Paläste*, 1903) has pointed out that there is a "contrast" (*ein Gegensatz*) between the elevation and ground-plan of the "Greek" (Troy, Tiryns, Mycenae, and Arne) and the Cretan palaces. It seems strange to me that he should nevertheless consider the Greek palaces to have been influenced by the Cretan form, especially when he (pp. 27 ff.) refers the principle of the *breitstirnige Front* which distinguishes Cretan from "Greek" palaces to the East, Syria and Egypt, for its origin. This "oriental" ele-

(2) Though the Terra-Cotta figurines from Cnossos have not yet been published systematically, occasional publications have given enough to show that they do not present that full and organic development which Mr. Chase and I have endeavored to demonstrate in this publication. None of the specimens from Crete which I have since seen represent the earliest beginnings as illustrated by our first and second class; nor do they show the continuity of development of our Tirynthian-Argive class out of its primitive beginnings. The causes for regret at the delay in our publication are exemplified by the fact that in the excellent publication of ancient Terra-Cottas just issued by Dr. Winter¹ he should have had to rely for the choice of his terra-cottas from the Heraeum upon my preliminary publication of our first year's work published in 1892, and that he has thus been unable to use for his general exposition the richest find of such objects, representing the most varied classes and presenting instances of such continuous development. In view of what I had put in the first volume² on the nature of the typically Mycenaean terra-cottas and their "ceramic" style, he could hardly have given to them a position earlier than our Tirynthian-Argive, still less than our primitive class.³

(3) As regards the pottery from Cnossos, we are already in possession of much fuller publication; and quite recently Mr. Duncan Mackenzie⁴ in a very thoughtful and able article has made an attempt to give a systematic account of the evolution of Cretan pottery. The discovery of Mr. J. L. Myres established the fact that the pottery to which he gave the name Kamares ware is peculiar to, and characteristic of, Crete. Mr. Mackenzie has in a conclusive manner shown how the earliest form of this Kamares ware is immediately developed out of the primitive Neolithic pottery with incised patterns. Upon this follows a class of "early Minoan" ware which, according to him, is the precursor of the Mycenaean ware, out of which, in fact, he maintains the Mycenaean style grew. But this Minoan class presents two different, if not antagonistic, groups: the one monochrome, the other polychrome in its decoration. On his own showing (p. 171) the polychrome was the more favorite style of the two. Now he maintains that these two groups contend with one another, as it were, mingle their influence, the monochrome ultimately winning the day, and that the final result is the establishment of the Mycenaean style.

It is on this most important point with regard to the evolution of the Mycenaean style that Mr. Mackenzie's arguments have failed to convince me. For the whole nature of this polychrome style in the Kamares as well as in the Cretan-Mycenaean ware is to my

ment (contrasted with the "Greek" element) in the Mycenaean style of Crete would correspond exactly to what I maintain below characterizes the Cretan pottery of the Mycenaean age.

¹ *Die Antiken Terrakotten*, etc., by R. Kehnle von Stradonitz, vol. III. 1903.

² Vol. I. p. 45.

³ When Dr. Winter, *l. c.* (p. xxx.), says of these earliest classes: *Die Entstehungszeit auch der primitiv gebildeten Stücke dürfte kaum sehr weit über das achte Jahrhundert zurückreichen*, it is enough to point to the tray, examined

by Mr. Chase, containing the objects from a tholos tomb at Mycenae in which a Heraeum terra-cotta of our second (Argive-Tirynthian) class was found, to prove that even our second class can at least not be later than the Mycenaean period. Cf. p. 10².

⁴ *J. Hellen. Stud.* XXIII. (1903) pp. 157 ff. Other articles dealing with Cnossian pottery have appeared by Mr. D. G. Hogarth, *British School Annual*, VI. 1899-1900, p. 74; by Dr. A. J. Evans, *B. S. A.* VII. 1900-1901; by the same writer, *B. S. A.* VIII. 1901-1902, pp. 88 ff.

mind a most characteristic differentiation of Cretan pottery; one, moreover, which also differentiates it from the essential characteristics of the Mycenaean style as presented to us in the representative vases from the mainland of Greece and other sites. The very first specimens of Mycenaean vases found in Crete which were shown to me some time ago gave me the impression that they had local characteristics mixed up with the Mycenaean style which distinguished them from the general run of Mycenaean ware, and which I consider foreign to the main feature of Mycenaean ware, in some sense antagonistic to it. For want of a better word I should describe this differential characteristic as "orientalizing." I mean by that term those features of decoration which are found in a much later age, namely, the "orientalizing" period as illustrated in the Corinthian vases preceding the development of the archaic black-figured vases which are more purely Greek in style. The distinctive decorative features of this "orientalizing" style are a tendency towards the polychrome or piebald in color and towards a redundancy of ornaments in design. Plate XII. vol. XXII. of the *Journal of Hellenic Studies* will illustrate my meaning. The bronze age vase (No. 1 in the middle) from Zakro is in shape and general ornamentation distinctly Mycenaean. But the manner in which the partly naturalistic and other ornaments have been scattered about the whole body and neck of the vase (with a redundancy which has led German archaeologists to talk of such as "*Füllornamente*") is foreign to the essential characteristics of the pure Mycenaean vase and style. Yet we must not be astonished to find this characteristic in a Mycenaean vase from Crete when it is manifestly already the leading characteristic of the "early Minoan" style, the precursor of the Mycenaean period, in that island. The primitive Cretan painted vases published by Messrs. Hogarth and Welsh in 1901¹ with the polychrome and characteristic Kamares vases given on Plates VI. and VII. will illustrate this more fully; while the polychrome cups Nos. 1 and 2 on Plate VI. of Mr. Mackenzie's article will most strikingly illustrate the principle of the "*Füllornamente*" at the early stage of Cretan ware preceding the Mycenaean period. Thus, through a careful and sober study of the style in the Cretan remains themselves, without the intrusion of any further theory, I cannot feel on the one hand that this polychrome style could ever lead to the Mycenaean style, and, on the other hand, that the distinctive characteristics which it embodies could ever be entirely expunged from the ware manufactured in Crete at any period of its production. It is to be found in the Mycenaean ware of distinctly Cretan origin, and, in some form or other, the developed Kamares ware manifests a similar character. It is a significant and interesting fact that the place where these characteristics of Cretan style manifest themselves in a strong survival most clearly in a far later period is Naucratis, where we find the main features of the Kamares ware in the ornamentation of the interior of the characteristic Naucratic pottery.

With the evidence furnished up to this moment before us, it seems to me more probable that the active influence which won the day in Crete for the monochrome decoration contending with the polychrome style was the introduction of pure Mycenaean patterns

¹ *J. H. S.* 1901, pp. 78 ff.

which probably came into Crete from elsewhere, and which were never assimilated in their complete purity of character. This course in the history of ceramic decoration seems to me more probable than that the elements of the Mycenaean style were engrafted from Crete upon the ware of those centres, notably the Argolid, where the Mycenaean style has hitherto been supposed to have had its native home. As far as the Heraeum is concerned, there appears to me to be no room for Mr. Mackenzie's hypothesis. For we have there, as I have endeavored to trace it,¹ a continuous and organic development from the incised and early painted ornamentation of the Neolithic ware, through the dull-colored linear ornament with free-hand drawing of the early Mycenaean ware, to the fully developed forms of that style; and it appears to me that, out of the principle of free-hand drawing with spirals and curved lines and waved patterns in the dull-colored vases, the naturalistic ornament of the period of advanced ceramic art in the Mycenaean age naturally follows. There is no room in the chain of development for the intrusion of the peculiar early Minoan vase.

One important point Mr. Mackenzie has succeeded in making highly probable, namely, that the use of glaze-color in vase decoration, which is to be found at the very earliest period in Crete, may have originated there, and may have spread thence to other parts of the Mycenaean area. This is most probable in view of the large numbers of such specimens found in Crete; though all sites of the ancient world have not yet been excavated. But the introduction of such a technical innovation is readily made from one part of the world into another; not so the introduction of a characteristic style. The isolated specimens of distinctively Cretan Mycenaean ware which have been found in other parts of the Mycenaean world do not justify the conclusion of such a predominant influence on the part of the Cretan style, when we consider the paucity of these isolated specimens in their proportion to the pure Mycenaean ware found in the Argolid and elsewhere. We must wait for a careful differentiation between the peculiar Mycenaean ware found in Crete and the ware which is purely Mycenaean and corresponds to the predominant class of Mycenaean vases found in the Argolid, and, comparing their relative numbers, we must then ask whether there is not actual evidence which makes it probable that a great quantity of Mycenaean ware may have been imported into Crete from the Argolid. I may finally add that the evidence from Troy confirms me in this supposition; for we there find a pronounced and distinctive form of primitive ware with its characteristic material, shape, and ornaments; while the advent of the Mycenaean style in the sixth layer is foreshadowed in the adoption of spiral ornaments in the previous layer, which, though incised in the predominant system of Trojan vases, manifests a decorative feeling introduced and adopted from elsewhere. Dr. Dörpfeld says of these ornaments:² "Ebenso neu, aber nicht eigentlich troisch, sind die eingetieften Spiralen, welche in der Zeit der dritten Periode aufkommen." These designs correspond to the usual ornaments as we find them on the earliest dull-colored vases in the beginning of the Mycenaean period.

These remarks on the Cretan question in its relation to our discoveries may, as I have

¹ Vol. I. pp. 53 ff.

² *Troya und Ilion*, 1902, p. 279.

said before, be premature, and I am quite ready to retract the statements here made when fuller evidence warrants such a change. But as it was not proper to ignore the brilliant results and the excellent work of the Cretan excavators while presenting this volume to the public, it was not possible to consider them without giving such a critical estimate of the bearings of their work upon ours.

In the preface to the first volume I announced that "the principle which I followed in this publication was to allow each member intrusted with a department as much independence as possible;" and that "I have not stood in the way of expression of well-founded individual opinion for which each collaborator deserves the credit and retains the responsibility." This clearly applies to Dr. Hoppin's conscientious publication of the Vases. It will be seen from his own statement that there is a point on which we differ, namely, the question of the Argive-Linear ware. But upon examination it will be found that the difference is but slight and not of essential importance. Dr. Hoppin accepts what is, after all, the most important point, which I raised some years ago, and which to my knowledge had not been put before, namely, that the linear ornament (we might call it the geometric system of ornamentation — not to be confused with the later geometric period of Greek ceramics) preceded the naturalistic ornamentation of the Mycenaean vases. As far as I can ascertain, the more recent excavations in Crete and Melos and other ancient sites have strongly supported the view I urged in 1892. I have not yet come across any specimen of early dull-colored Mycenaean vases, nor of Neolithic vases from classical sites, which can be held to contain ornamentation that is not purely linear in character. Moreover, Dr. Hoppin admits that in the more advanced and wheel-turned vases of the Mycenaean period an important part of the ornamentation always remains linear; while in many of the small vases which he attributes to the Mycenaean period this linear system alone appears. Furthermore, in some small vases which he attributes to the Geometric period, the same principle applies; while, of course, in the succeeding period his own Argive-Linear, there is nothing but linear ornamentation. He can thus not deny my contention that in the early vases from the Heraeum the linear principle of ornamentation was never absent, from its beginnings in the incised Neolithic ware to the end of the Prehistoric period. Our difference of view thus narrows itself down to what is almost a difference of words. In view of the continuous presence of a certain system of ornament, its predominance at the earliest period, as well as at the latest, I have maintained that there was thus in the vase decoration a continuous Argive-Linear system at the Heraeum, the pedigree of which goes back to the Neolithic period, and the flourishing day of which is to be found in the later Argive-Linear period, formerly called Proto-Corinthian. Dr. Hoppin believes that my later Argive-Linear ware marks the degeneration of the Mycenaean system, and he proposes to restrict the term Argive-Linear to that later development. I am quite willing and quite ready to grant the main point of Dr. Hoppin's observation, namely, that the linear principle could not have asserted itself so strongly in the later period if the naturalistic element, predominant in the Mycenaean period, had not lost its vitality. But in view of the fact that in none of the previous periods had the linear

principle of decoration been eliminated, it cannot be correct to imply that there is any new departure in its more exclusive assertion when the Mycenaean style lost its vitality. Nor can it be correct to maintain that in this later period it originated out of the decline of the Mycenaean system immediately preceding it, when it was the predominant principle in the period preceding the Mycenaean, out of which this grew.

The conscientious work that Mr. DeCou has bestowed upon the publication of the Bronzes will be manifest to all readers. But they cannot realize the infinite care and persevering labor which, before he wrote, he bestowed for several years upon the cleaning and sorting of the confused mass of shapeless material with which he had to deal. He has chosen to avoid drawing any wider conclusions from his facts, — a course which is thoroughly justifiable and has much in its favor. But we should have also been grateful to him if he had given us the fruits of his experience in further historic and archaeological appreciation of his material, seeing that there is hardly any archaeologist alive who has had more experience in dealing with ancient bronzes than he.

Professor R. Norton's work is of high interest. If he is right in his classification, there are two distinct classes of engraved stones preceding the distinctly Mycenaean stones. This would furnish very strong evidence of artistic activity on our site before the developed Mycenaean period. Moreover, the numerical preponderance of the "new type Argive" stones over the Mycenaean stones is significant. I would suggest as an explanation of the comparative paucity of Mycenaean stones on this site, that this class of gem was not commonly used as a votive offering. They are thus generally found in graves, and were used in life as ornaments or amulets. At the same time, the presence of comparatively large numbers of stones on the Heraeum site antedating the Mycenaean period might be a confirmation of our view that in these earlier times the site was a citadel and not merely a sanctuary, as it became in the later period.

Mr. Lythgoe's publication of the Egyptian objects confirms the views he previously expressed, and which are embodied in the General Introduction in the first volume.¹

CHARLES WALDSTEIN.

KING'S COLLEGE, CAMBRIDGE, February 28, 1904.

¹ Since this has been in type, and nearly two years after Volume I. of this publication appeared, a review is published in the *Berliner Philologische Wochenschrift* (June 25, 1904, pp. 811 ff.) by Professor Furtwängler which is a caricature of all that a fair review ought to be. This I answered in No. 39, September 24, of the same journal. To all who are acquainted with the nature of the controversies carried on at present between us his action will be intelligible. In this long review he passes over the most important question of the Polycleitan character of the Heraeum sculptures — the main subject of controversy between us — with a few lines. Readers of Volume I. (pp. 184 ff., and elsewhere) will remember how fully I dealt with the question of the Polycleitan character of the sculptures, and how I controverted in detail Professor Furtwängler's dogmatic statement that "all these sculptures have not the least relation to Polycleitus

and his school. . . . The head of Hera and most of the sculptures from the Heraeum known to me are certainly Attic." While denying all my views in his review, he inserts the phrase that two of the metope heads "may be admitted to have something of Polycleitan style." What does this retreat from his former position mean? That two heads of this chief Argive temple, in which Polycleitus, the leader of the Argive school of sculpture, made his famous statue, are admitted by him to be Polycleitan in character. If any of the metopes show Polycleitan style, the leading art of the place was present in the sculptured decorations. As a matter of fact, with minor differences among each other (such as the Parthenon marbles and all other temple-sculptures show), all these Argive sculptures from this temple are of the same style.

C. W.

January 30, 1905.

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THE TERRA-COTTA FIGURINES

THE TERRA-COTTA FIGURINES

BY CHARLES WALDSTEIN AND GEORGE HENRY CHASE

THE great bulk of the Terra-cotta Figurines found at the Heraeum belong to what must be called pre-archaic Greek types. When we consider the find as a whole, we discover the following significant facts:—

I. The number of terra-cottas dating from the clearly historical periods of Greek civilization, i. e. the eighth century B. C. and later times, is very small. Out of 2865 figures preserved by us, not counting the ordinary figures of animals and small objects, which cannot be accurately classified, there are 2557 of pre-archaic style to 308 of archaic and later types.¹

II. Among the terra-cottas of the archaic and later periods, a strikingly small proportion belong to the periods of advanced archaism and technical freedom; in fact, there are only fifty-two specimens of the former and two specimens of the latter.

Thus it will be seen that the closest parallelism exists between the main conditions of the find in terra-cottas and those of the vases, bronzes, and other objects; namely, the absolute preponderance of "prehistoric" material, the absence of works of the later Greek periods, and the fact that in the layers which we excavated, hardly any object is synchronous with the erection of the Second Temple or of a later period.²

The bulk of the find in terra-cottas was made in the black layer about and below the foundation walls of the Second Temple, as well as in the deposits on the southeast and southwest slopes of the Second Temple terrace.³ But this general statement must be qualified by the following significant facts:—

1. We can assert as practically established the fact that no terra-cotta figurines were found beneath the surface of the upper or Old Temple platform.

2. Nearly all the specimens of the archaic and subsequent periods were found on the southern slope and the southeast corner and slope of the Second Temple (not in the black layer about the foundations of the Second Temple).

3. No prehistoric Greek specimens were found within the large West Stoa (one specimen of a draped female figure, belonging to the archaic period, was found here), and none at all on the site of the Roman Building.

The fact that no terra-cottas were found on the site of the Old Temple, *as it presented itself to us for excavation*, may lead us to any one of three conclusions: (1) that our terra-cottas belong to a later period than that marked by the site; or (2) that the custom of offering such figurines did not exist at the time when the temple *was built*—

¹ Cf. the Table, p. 9.

² Cf. General Introd. vol. I. pp. 37 ff.

³ The custom of burying the smaller objects dedicated in temples, often apparently with great care (cf. the find of terra-cottas made by Orsi at Terravecchia near Granmichele in the Province of Catania, *Mon. Ant.* VII. pp. 201–274, esp. pp. 212 ff.), is one which has been illustrated by a large number of excavations upon Greek soil and

elsewhere (cf. Homolle, 'Donarium' in Daremberg et Saglio, *Dict. des Ant. Gr. et Rom.* II. pp. 363 ff., esp. p. 371, note 130). In the case of the Heraeum, these offerings seem to have been used as "dry rubbish" in leveling up about the Second Temple, just as the offerings upon the Acropolis which were demolished by the Persians were later used in leveling that site.

that it was an aniconic period; or (3) that the site in question was not the natural repository for such votive offerings. We are inclined to one of the latter views.¹

The two other points, while they show that the main sites excavated about the Second Temple were pre-archaic Greek, and that the Argive period of the Heraeum marks the change in the entrance from the west side to the south slope, also show that the main bulk of our terra-cottas belong to the pre-archaic period.

With such a mass of material before us, even in the selected specimens which we brought to Athens, our first care was to find some principle of classification. Two courses seemed open to us: We might classify our figures either according to their form and style, or according to their decoration. On mature consideration, the former method has appeared preferable, especially as a classification by decoration must confine itself almost entirely to plastic decoration—the paint having disappeared entirely from many of our figures. Moreover, no systematic chronological development could be established on the decorative principle only. At the same time, the principle of classification by decoration has seemed to us a sound one, and we have employed it as a secondary principle for distinguishing a few classes,² and for drawing distinctions within one class.³

CLASS I. — Such, then, being our principle, our first class, which we have called “Primitive Argive,” consists of a great number of very rudely modeled figures, to which, in fact, the term “modeled” can hardly be applied. They are really nothing but a small lump of clay, elongated, then pinched in the middle to indicate a waist, the resulting projection above forming two stumpy arms, while another pinch at the top indicates the head. This head soon develops into the well-known bird-like head, in which the beak-like nose is formed by a compression of the clay between the two fingers of the “modeler.”⁴ These are the characteristics of the earliest specimens.⁵ Later, two disks are plastered to the sides of the “beak” to represent the eyes,⁶ a lump of clay is added to form a kind of pilos or cap,⁷ or a strip of clay wound about the head forms a stephane,⁸ while in many figures one or more short strips of clay are added to the back of the head to represent the hair⁹ (exceptionally the hair is indicated in a few early specimens by grooves at the back of the head). So one sometimes finds — though this is quite exceptional — a figure in which the artist has tried to imitate nature more closely, in which two lumps of clay are added to the front of the figure to represent the breasts;¹⁰ the fall of the drapery in front is rudely reproduced by one or more grooves,¹¹ or a cutting across the “beak” forms a rude mouth.¹² But even in the most advanced figures of this class, the development is exceedingly slight, and the body always remains essentially a rude lump of clay.¹³

CLASS II. — A distinct advance is made when the rude standing figure is converted into a seated one.¹⁴ The technical change, indeed, is not great; the standing body is simply

¹ Cf. General Introd. vol. I. pp. 39 ff.

² Such, for instance, as the Mycenaean and the Dipylon classes, in which the influence of vase painting is very apparent.

³ Cf. p. 11.

⁴ It should be noted that this lack of modeling is partially accounted for by the fact that nearly all our figures are female (cf. p. 13, note 5). The drapery of such figures in the early stages does not admit of fine distinctions in modeling, such as the indication of the legs, the torso, and its articulations.

⁵ Cf. No. 1.

⁶ Cf. Nos. 2, 3, 5, etc.

⁷ Cf. No. 3.

⁸ Cf. Nos. 4, 5, etc.

⁹ Cf. No. 4.

¹⁰ Cf. No. 8.

¹¹ Cf. No. 9.

¹² Cf. Nos. 9 and 10.

¹³ We might have subdivided this first “Primitive” class into three minor classes, according to the differences enumerated above. But we find it desirable at this stage not to confuse by too minute classification, leaving it to future inquiry to accentuate these, or even to establish further distinctions.

¹⁴ Cf. Nos. 12 ff.

bent at the middle and supported by two stumpy legs,¹ a process which prevails down to the latest period of this class. Even in the most advanced specimens, the employment of a separately made chair as a support is rare. But although this change is of little importance technically, it is of great importance historically. It marks the change in the conception of the goddess which is represented in the traditions of Argos by the story of Pirasus and his seated figure of Hera dedicated at Tiryns.² Now it is a striking fact that, aside from the Heraeum and Tegea (of which we shall speak later), Tiryns is the place where these seated figures have been found in greatest numbers. We have therefore ventured to call the figures of this class "Tirynthian Argive," and we believe that they represent roughly the period of the supremacy of Tiryns in the Argive plain.³

In these "Tirynthian Argive" figures, we have a long and complicated development of the drapery; while the figures themselves, although constantly increasing in size, remain, with very few exceptions, a mere oblong piece of clay, bent forward into the seated posture, and the heads still have the "bird face." This development of the drapery even affects the standing type, and we find in our later standing figures a tendency to elaboration which corresponds closely to the development in the seated types. The various steps in this development are exceedingly interesting, and we shall revert to them later. Suffice it here to say that, for practical purposes, we have divided our "Tirynthian Argive" class into three subordinate groups, basing our distinctions upon the greater or less elaborateness of the ornamentation.⁴

The next step in the development of this type of terra-cotta figurines is the change from the "bird face" to the human face, with all the features carefully distinguished. But before we take up this class of "Advanced Argive" figures, we must speak of two intermediate classes, which we have set apart by reason of their decoration as well as their form and style. We mean the Mycenaean and Geometric classes.

CLASS III. — The "Mycenaean" terra-cottas differ from those of the Primitive and Tirynthian Argive classes in that they show a quite different technique, both in regard to the fineness of the clay and in regard to ornamentation. A careful comparison of the Mycenaean figures with the preceding classes, moreover, brings out the following facts:

(1) They are numerically very weak — there are only sixty-three fragments of Mycenaean types among our selected terra-cottas, and of these ten are fragments of animals.⁵

(2) *Prima facie*, the schematic outline of these figures, ending below like the foot of a vase, and above with the *polos*, like the neck of a vase,⁶ the whole crossed by round or pelta-shaped body and arms,⁷ is much less naturalistic than the figures of the primitive and Tirynthian Argive classes. On the other hand, the detail workings of the body, such as the indication of the breasts,⁸ show far greater knowledge and skill in modeling than we find in Classes I. and II. Both these facts would seem to indicate that we are dealing with a later class of figures. Moreover, the color decoration shows the same use of glaze color, applied in a similar manner, that we find in Mycenaean vases. We thus consider this class of terra-cottas an intrusion into the general and continuous scheme of Argive terra-cottas, which began and ceased during the period of our first and second classes, but which, strangely enough, was but very little influenced by the Primitive and Tirynthian Argive styles, and exercised little influence on them.⁹

¹ As it happens, the most primitive specimen of the seated type which we found (No. 12) is provided with a separate four-legged chair, but this is exceptional.

² Cf. Paus. II. 17. 5, and General Introd. vol. I. p. 44.

³ Cf. General Introd. vol. I. p. 44.

⁴ Cf. p. 11.

⁵ Cf. the Table, p. 9.

⁶ Cf. No. 67.

⁷ Cf. Nos. 65, 67, 70.

⁸ Cf. especially No. 65.

⁹ See, however, our remarks on No. 70.

The peculiarities of this Mycenaean style, we believe, are due to the fact that it was essentially a development from vase painting, perhaps even the work of the Mycenaean *κεραμεύς*, not of the coroplast proper.¹ We believe this for these three reasons:—

These figures are never found, to our knowledge, except where there are also Mycenaean vases (whereas our "Primitive" figures were found together with all classes of vases).

The conventionalization of the figure, notably at head and foot, points to ceramic art.

The use of glaze color is certainly borrowed from vase painting.

In this matter of the use of glaze color, we have come to a question which requires much greater amplification, and which will lead us much further afield. In the figures of Classes I. and II. (as also, to a less extent, in the later classes), the whole figure was usually covered with a white, chalky slip, and upon this was applied a simple line decoration in red and black.² This white slip, owing to its flaky character, has in many cases been entirely lost,³ and is often preserved only in cracks and holes.⁴ The isolated instances in which figures of Classes I. and II. have a glaze color applied directly to the clay⁵ seem to us to point to an introduction of this specifically Mycenaean technique to contemporary specimens of those classes. Indeed, we have a number of specimens in which the white coat is used for the upper part of the body, while the lower part is given a solid color, applied directly to the clay,⁶ and this is common in the later, "Advanced Argive" specimens.⁷ The use of the white slip, however, appears to have been the specifically coroplastic method, which obtained throughout all periods down to the latest times⁸—a fact which strongly confirms our contention that these terra-cottas (in which the color is applied directly) were made under the influence of the *κεραμεύς*.⁹

CLASS IV.—The single female figure (No. 75), which we have assigned to a distinct "Geometric" class, seems to us to warrant this distinction by reason of its peculiar decoration, which, with its bands of geometric ornaments, divided by straight lines, is very similar in plan to the decoration of the large Geometric vases which form this class. Its position in the series is determined by the fact that the face was evidently of the primitive "bird-faced" type. With this figure we have grouped another distinctly Geometric specimen (No. 76), a horse of the type so common upon the covers of Geometric vases.¹⁰ The two specimens do not represent the entire influence of the Geometric style upon our terra-cottas. Traces of that influence are to be seen in a number of other figures, especially among the animals and small objects,¹¹ but the two which we have placed together are the only ones which are so distinctly Geometric in character as to warrant a place by themselves. In fact, though at Olympia a large number of Geometric animals (especially horses) have been found, it is a noteworthy fact that we can hardly identify any plastic representations of the human figure with this period. It appears to us that this

¹ Cf. General Introd. vol. I. pp. 45 ff.

² Cf. Nos. 7, 11, 12, 13, 14, etc.

³ Cf. Nos. 1, 2, 3, 5, 9, etc.

⁴ It is this perishability of the white slip, doubtless, that led Schliemann to speak so often of "unpainted" terra-cottas from Tiryns (cf. *Tiryns*, pp. 150 ff.). In the light of our discoveries, there can be no doubt that nearly all, if not all, the figures from Tiryns were originally painted.

⁵ Cf. Nos. 10, 21, 25.

⁶ Cf. Nos. 4, 24.

⁷ Cf. p. 7.

⁸ Cf. Martha, in the introduction to his *Catalogue des Figurines en Terre Cuite du Musée de la Société Archéologique d'Athènes*.

⁹ This matter of the interaction of vase painting and coroplastic art has never been carefully worked out. The early Tanagra "*παράδες*," for instance, show distinct traces of the Geometric influence. The white Athenian lekythi, on the other hand, seem to be a result of the application of coroplastic technique to vase painting.

¹⁰ Cf. Rayet et Collignon, *Hist. de la Céramique Grecque*, p. 33, fig. 21.

¹¹ Cf. Nos. 248, 272.

arises out of the constructive nature of that style, which is essentially decorative and conventional — in so far as non-naturalistic and opposed to plastic art.

CLASS V. — A very marked advance in the development of the terra-cotta figurines found at the Heraeum from the earliest primitive type onward is made when once the "bird face," which obtains in all the classes hitherto mentioned, is superseded by the human head.¹ This type we have called "Advanced Argive." The figures of this class are plainly a development from our second, Tirynthian Argive, class. Even in the most advanced specimens, with very few exceptions,² the bodies of these figures are essentially the same flat oblong which we found in the figures of the Tirynthian Argive class. The heads, on the other hand, are of archaic type, with wide, staring eyes, large ears placed high, the mouth often having the well-known archaic smile.³ Most important of all, these heads, almost without exception, were made in moulds. Here, then, we see the beginnings of that use of moulds which later became the prevailing mode, and revolutionized the manufacture of terra-cottas. Another characteristic of this class of figures is the tendency to elaborate ornamentation, of which we shall have more to say later.⁴

In the colored decoration of the figures of this class, also, we find again the two processes which we have before noted. Thus, while the use of the white slip as a basis for decoration in color is always retained for the upper parts of the figure, and in many cases is used for the entire figure as well,⁵ in the large specimens the color is often applied directly to the chiton, usually a red stripe at the top, and dark brown for the rest of the garment.⁶

It is also a noteworthy fact that in these figures the seated type prevails almost exclusively. Indeed, the only standing figure which we have ventured to place among the advanced Argive specimens differs from them so widely that we have even doubted whether it ought not to be placed in a category by itself. This is No. 107, a figure which again illustrates the influence of ceramic upon coroplastic art. This figure has traces of a human head. In the upper part of the figure there is a certain degree of naturalness, but the lower part of the body is emphatically conventionalized, without any attempt at naturalism. The roundness is so complete that it at once suggests mechanical work, such as the turning of the potter's wheel. The use of the wheel is still further confirmed by the application of the brush in making the accurate parallel lines in groups of three, and the broad line at the waist around the cylindrical body. The ornamentation, as well as the structure of the figure, thus points to the influence of the *κεραμεύς*, belonging to the period of the fully developed Argive-Linear,⁷ as the Mycenaean terra-cottas showed the influence of the Mycenaean *κεραμεύς*. We have placed it among the advanced Argive figures on the ground that it has a human head and a conventionalized body,⁸ and that the decoration would mark it as belonging to about the period to which we must assign our advanced Argive figures.

CLASS VI. — Our next class, "Figures under Oriental Influence," consists of a small number of figures which are marked out as a separate category by their subjects — two lions, heraldically grouped, winged female figures like the so-called Niké of Archermus,⁹

¹ Cf. Nos. 77 ff.

² Figures like Nos. 90 and 91, in which the bodies have a considerable thickness and there is some attempt to represent the waist, are extremely rare.

³ Cf. Nos. 93 ff.

⁴ Cf. pp. 10 ff.

⁵ Cf. Nos. 79 and 80.

⁶ Cf. Nos. 86, 90, 91, 92.

⁷ Cf. pp. 126 ff.

⁸ It should be noted, however, that the conventionalization in this figure is quite different from that which we have seen in the Mycenaean figurines.

⁹ Cf. Collignon, *Hist. de la Sculpture Grecque*, I. p. 136, fig. 68.

several figures of the Egyptian Bes, and a number of representations of the Sphinx.¹ With these we have grouped a small figure of a horseman,² which is certainly of Egyptian manufacture. It would of course have been possible to catalogue these figures under our next class of archaic figures, as they are all archaic in style; but it has seemed to us more desirable to collect in one category the specimens which distinctly show the influence of the East, just as in vases this influence is recognized in the so-called Corinthian vases. It is the analogy of the history of vases, moreover, in which the Corinthian style follows the Argive style, that has led us to place this category immediately after the class of advanced Argive figures.³

CLASS VII. — With the beginning of the historical Greek period, the art of terra-cotta making becomes more dependent upon sculpture, and from this time on, its history is better known and more easily traceable. To the beginning of this archaic period we must assign a number of figures rudely made by hand,⁴ which, although they still preserve a high degree of conventionalism, manifest an endeavor on the part of the coroplast to imitate more closely the forms of the human body. Their conventionalism, moreover, is the conventionalism with which we are familiar in the early statues of Greek art (the *ξόανα*), beginning with the Nicandra statue from Delos.⁵ We have therefore classed these figures, and those immediately following them, as "Early Archaic," but have subdivided them into two groups: —

Group *a*. — Hand-made Figures. These we regard as in a certain sense a transitional type from the earlier, hand-made Argive figures to the moulded figures of the archaic period proper.

Group *b*. — Mould-made Figures. The archaic period proper begins with the introduction of the use of moulds for the whole figure, the second step — the modeling of the heads of the advanced Argive figures being the first — toward the developed terra-cotta figurine of later centuries. Here we have, at the beginning of the class, a very interesting transitional specimen,⁶ in which we have a mould-made torso, decked out at the shoulders with two disks,⁷ such as are common in the primitive and advanced Argive types.⁸ After this we have a long series of both seated and standing figures, in which we can trace, as in the work of the sculptor, the struggle of the artist with his material, the gradual advance in the representation of the folds of the chiton,⁹ the development of the arms from mere stumps to well-modeled members of the body,¹⁰ which are raised to the breast,¹¹ and carry attributes.¹² The final period of this development corresponds to the period of the well-known female figures on the Athenian Acropolis.¹³

As to color technique, we find in the archaic terra-cottas the same two opposing influences which we have noted in our earlier classes. The great majority of our archaic

¹ Cf. Nos. 108–116.

² Cf. No. 117.

³ Here, too, might be placed Nos. 207–213, which also show traces of Oriental influence; but it seemed better to catalogue them among the archaic heads, for in them it is the archaic, rather than the Oriental element, which is most characteristic.

⁴ Cf. Nos. 118–131.

⁵ Cf. Collignon, *Hist. de la Sculpture Grecque*, I. p. 120, fig. 59.

⁶ Cf. No. 132.

⁷ Cf. p. 10.

⁸ It should be noted, however, that this figure is almost without a parallel in our finds. For the most part, these archaic terra-cottas were very little influenced by the Argive type, although the two classes must have existed side by side for a considerable period.

⁹ Cf. Nos. 153, 157, 163, etc.

¹⁰ Cf. No. 157 with No. 148 and No. 154.

¹¹ Cf. Nos. 153, 155.

¹² Cf. No. 165 ff.

¹³ Cf. Collignon, *Hist. de la Sculpture Grecque*, I. pp. 341 ff., figs. 170 ff.

figures show numerous traces of the white slip, which we have described as the typically coroplastic method of decoration;¹ but some have paint applied directly to them, at least in parts.²

CLASS VIII. — Of terra-cottas belonging to a later age than this early archaic period we have but few specimens, and these are almost exclusively heads of figures and votive busts, in which, owing to the very gradual development of the archaic style, no sharp line of demarcation can be drawn between early and later specimens. We believe, however, that the forty-two specimens³ which we have included in an "Advanced Archaic" class will be found to mark a higher stage of development than is attained by any specimens of Class VII.

CLASS IX. — Finally, we come to the last group, which, as has been said above, is represented by a remarkably small number of specimens. In regard to Nos. 239 and 240, there can be no doubt that they belong to the best period of Greek terra-cotta work, and we have not hesitated to place them as "Figures of Free Style," in a separate class.

The figures of animals and of various small objects are in general so rudely modeled that they do not lend themselves to any classification based upon style.⁴ We have therefore been led to adopt the manifest principle of classification according to subject, and thus to distinguish two further classes, — "Animals" (under which we include figures of men and women seated upon animals) and "Various Objects."

So much for the principles upon which we have based our classification, and the general development of the manufacture of terra-cottas at Argos, as represented by our finds. But, as we have already suggested, these classes are by no means of equal importance. Nothing, indeed, is more instructive than the table of the numerical strength of the classes, which is as follows: —

NUMBER OF SPECIMENS IN THE VARIOUS CLASSES.

I. Primitive Argive	122	VII. Early Archaic	249
II. Tirynthian Argive	1961	VIII. Advanced Archaic	42
III. Mycenaean	63	IX. Free Style	2
IV. Geometric	2		
V. Advanced Argive	409	Animals	715
VI. Figures under Oriental Influence	15	Various Objects	433

That is, of 2865 specimens, not counting animals and various objects, 2492, or over 85 per cent., are figures of the flat-bodied type, with either the "bird face" (2083 specimens) or with the archaic head which is its successor (409 specimens). It is the preponderance of this type which justifies us in calling these specimens distinctively Argive. They have been found, it is true, in other places, notably at Tiryns⁵ (as we have recognized by our qualification of a certain class of them as Tirynthian), at Hagios Sostis (Tegea),⁶

¹ Cf. Nos. 132, 135, 140, etc.

² Cf. Nos. 137, 138, 163, etc.

³ Cf. Nos. 227-238.

⁴ The only exception which we have made to this rule is in the case of Mycenaean and Geometric animals, where the decoration leaves no possible doubt as to their place.

⁵ Cf. Schliemann, *Tiryns*, pp. 149 ff., figs. 76-96.

⁶ Cf. Lenormant, *Gaz. Arch.* 1878, pp. 42-48; Pervano-

glou, *Nuove Mem. dell' Ins.* II. pp. 72-76, pl. vi.; Martha, *Cat. des Fig. du Mus. d'Athènes*, Nos. 541 ff. These Tegean figures present the closest parallels to our Argive types. They occur with human as well as with "bird faces," and the later specimens are often very elaborately decorated. They were found in such numbers as to preclude the theory that they were imported from Argos. We must conclude, therefore, that the art of the coroplast passed through much the same development at Tegea as at Argos,

and sporadically elsewhere.¹ But nowhere have they been found in such numbers or exhibiting such a clearly marked development as at Argos. They are hardly found at all at Mycenae.² We feel justified, therefore, in giving them the distinctive name of "Argive."

But if these Argive figures form the great bulk of our find in terra-cottas, they also present the most serious and difficult problems of all our figures. How, for instance, shall we designate the great mass of plastic ornament which is so characteristic of the later "advanced" type, and also, to some extent, of the earlier specimens? In the preliminary publication of the Heraeum finds, it was suggested that the elaborate ornaments upon the shoulder of the Argive figures might be bunches of flowers, having some reference to Hera Antheia.³ But further consideration has convinced us that, for the great mass of our figures, this view is untenable. In the first place, the large ornaments for which this interpretation was suggested⁴ are plainly developed from the small round bosses of earlier figures.⁵ The beginning of this development is very plain in one specimen,⁶ where the wedge-shaped ornament at the shoulder is no more than an elongated boss. Now in many later specimens⁷ this boss develops into a regular fibula of the "four-leaved clover" type,⁸ which Helbig⁹ proposes to identify with the Homeric $\epsilon\lambda\iota\zeta$.¹⁰ Moreover, in one fragment¹¹ we have the most evident attempt to represent a bronze fibula of the usual "bow" shape;¹² while with the elaborate ornaments like

or (what seems to us more probable) that the coroplasts of Tegea were strongly influenced by those of Argos, and that there was an intimate connection between these two places (cf. Ridgeway, *J. H. S.* XVI. [1896], p. 99, on the close connection between Tegea and Argolis); Curtius, as Ridgeway remarks, pointed out (*Gr. Gesch.* I. p. 156) that Nauplius is represented as the servitor of the king of Tegea. We may also point to the fact that the priestess Chrysis sought and found refuge at Tegea after leaving the Heraeum (Paus. III. 5. 6).

¹ At Bathos, on a spur of Mt. Lycaon (cf. Bather and Yorke, *J. H. S.* XIII. [1893], p. 228); in Cyrenaica (cf. Heuzey, *Fig. Ant.* pl. xl. 1); at Thisbe in Boeotia (cf. *Arch. Anz.* 1895, p. 220, 4); one or two specimens were found by the English School at Phylakopi in Melos. There are a few specimens very similar to ours (all with human faces) in the museum at Syracuse, but the Sicilian terra-cottas are for the most part of a far less primitive character than those of Argos; cf. the figures from Agrigento (cf. Kekulé, *Ant. Terrakotten*, II. pp. 17, 18, figs. 21-27), from Gela (*ibid.* p. 22, fig. 47), and the specimens from the vicinity of Terravecchia near Granimichele, published by Orsi (*Mon. Ant.* VII. pp. 239 ff., figs. 31, 32). Finally, a number of vases from Cyprus in the British Museum, of Geometric style, are decorated with figures very similar to our advanced Argive type; they are placed on the neck of the vase, and hold in one hand a small jug which served as a spout to the vase.

² A tray in the Central Museum at Athens (numbered 3071) contains a number of figures of the type of our primitive and advanced Argive specimens, which came from a tholos tomb near Mycenae. Dr. Tsountas informs us, however, that the roof of this tomb had fallen in and the contents had been disturbed, so that no sure conclusions can be drawn from them. The tray contains —

Primitive standing figures, no ornamentation	2
Primitive standing figures, one necklace	5
Primitive sitting figures, no ornamentation	1
Primitive sitting figures, one necklace	2
Primitive sitting figures, two necklaces	8
Primitive heads	2
Advanced sitting figures	1
Advanced heads	2
Warriors	11
Animals	6
Animal with bird face (probably a centaur).	
Fragment of a Mycenaean vase.	

Several of the figures have pins of the "dumb-bell" shape (cf. No. 84), while the "clover-leaf" type (cf. *supra*) also occurs. One of the advanced heads has a calathos and a double taenia, closely resembling Nos. 101-104. We think it right to draw attention to the fact that this beehive tomb, even if it was disturbed, contained no object later than the Mycenaean period. In so far, the presence of the "Tirynthian Argive" terra-cottas would place them not later than the Mycenaean period.

³ Cf. Waldstein, *Excavations of the American School at the Heraeum of Argos*, 1892, p. 20. Cf. No. 52, where the ornament certainly suggests a mass of flowers.

⁴ Cf. Nos. 83 and 93.

⁵ Cf. Nos. 27, 28, 40.

⁶ Cf. No. 43.

⁷ Cf. Nos. 54, 90, 91.

⁸ Cf. Montelius, *La Civilization Primitive en Italie*, pl. xxi. 286-289; Furtwängler, *Olympia; Ergebnisse*, IV. pl. xxi. 360.

⁹ Cf. *Das Hom. Epos aus den Denkmälern erläutert*, 2te Aufl. pp. 280 ff.

¹⁰ But cf. Studniczka, *Beit. zur Geschichte d. Gr. Tracht, Abh. d. Arch.-Epig. Seminars d. Universität Wien*, VI. p. 114, footnote.

¹¹ No. 82.

¹² Cf. Montelius, *loc. cit.* pls. i., iv., v., viii., ix.

No. 84, we may compare fibulae found in our own excavation,¹ and others published by Montelius.² It thus appears evident that these ornaments are intended to represent simply the pins by which the Doric chiton was fastened at the shoulder, whether this be the straight pin (περόνη), or the fibula of the clover leaf or bow form; and we have therefore had no hesitation in so designating them in our descriptions. There is room for doubt, perhaps, in the specimens which have only the simple round boss, whether this boss is meant to represent a fibula of the ξλιξ type or a simple straight pin. We have used the term "pin," therefore, to include both fibulae and περόναι.

The bands across the breasts of our figures³ are in many cases evidently meant to represent necklaces, and we can perhaps distinguish in some cases between the ἰσθμιον, or close-fitting necklace, of Homer⁴ and the ὄρμος,⁵ or long necklace. Certainly the many cases in which we find bands ornamented with pendants⁶ can be meant for nothing but necklaces. But very often our band extends only from shoulder to shoulder, and appears to have some intimate connection with the pins which we have just discussed.⁷ Schliemann⁸ called such ornaments simply "bands," while Perrot,⁹ in describing a figure very similar to No. 34, calls the ornament "a sort of scarf." In the later development,¹⁰ when the figures are adorned with a large number of these bands, the lower one is usually so wide, and is stretched so straight from shoulder to shoulder, that there can be no doubt that it is the fold of the Doric chiton.¹¹ Moreover, in specimens like No. 30, the band is plainly the fold of a garment arranged like the ἱμάτιον in later works.¹² It must be said, however, that even in fairly early specimens the "bands" often become subordinated to a general principle of elaborate ornamentation, so that it is impossible to assign a given ornament to one class or the other, to say categorically, it is a necklace or it is a fold. In the most advanced Argive specimens¹³ we find a further complication in the elaborate plastic ornaments across the breast, which seem to be made in imitation of lace or metal adornments attached to the fold itself, or possibly of long chains, such as the women of modern Greece wear on feast days. But even if they are such, they are plainly developed from the earlier necklace and simple fold, and these are the most characteristic forms of decoration of the Argive type. It is the constant recurrence of these bands which has led us to adopt, as convenient subdivisions of our Tirynthian Argive class, the following categories:¹⁴—

1. Figures with slightly developed plastic ornamentation at shoulder (no decorative bands).

2. Figures with considerably developed plastic ornamentation (one band).

¹ Cf. p. 242, No. 852.

² *Loc. cit.* pls. xvii. and xviii.

³ Cf. Nos. 27 ff.

⁴ Cf. Nos. 27 and 36. Compare also *Od.* xviii. 300 :—
ἰσθμιον ἥνικεν θεράπων, περικαλλὲς ἄγαλμα.

And *Schol.* :—

ἰσθμιον· ἰσθμὸς δὲ τράχηλος. ἰσθμιον οὖν περιτραχήλιον κόσμον περιπεπλεγμένον, οὐ μὲντοι κοσμήματά τινα ἐκκρεμάμενα. καὶ ἄλλως· περιτραχήλιον, ἔνθεν καὶ παρίσθμια· διαφέρει δὲ τοῦ ὄρμου. τὸ μὲν γὰρ προσέχεται τῷ τραχήλῳ, ὁ δὲ ὄρμος κεχάλασται.

⁵ Cf. *Hym. Hom.* v. 10 (Gemoll) :—

δειρῇ δ' ἄμφ' ἀπαλῇ καὶ στήθεσιν, ἀργυρέοισιν
ὄρμοισι χρυσείοισι ἐκόσμεον, οἳοί περ αὐταί
᾿Ωραι κοσμίεσθην χρυσάμπυκες.

And *ibid.* iii. 88 :—

ὄρμοι δ' ἄμφ' ἀπαλῇ δειρῇ περικαλλέες ἦσαν
καλοί, χρύσειοι, παμποίκιοι ὥς δὲ σελήνη
στήθεσιν ἄμφ' ἀπαλοῖσι ἐλάμπετο, θαῦμα ἰδέσθαι.

⁶ Cf. Nos. 40, 42, 80, etc.

⁷ Cf. Nos. 28, 34, 37, 40, 41, etc.

⁸ Cf. *Tiryns*, p. 156.

⁹ Cf. Perrot et Chipiez, *Hist. de l'Art*, VI. p. 750. The figure is No. 344, taken from Schliemann, *Tiryns*, p. 359, fig. 159.

¹⁰ Cf. Nos. 86, 93.

¹¹ Cf. Studniczka, *loc. cit.* pp. 6 ff.

¹² Cf. Nos. 163, 164, 175.

¹³ Cf. Nos. 90 and 91.

¹⁴ For the advanced Argive terra-cottas no such distinction seems necessary, as they are practically all of the elaborately ornamented type.

3. Figures with elaborate plastic ornamentation (two or more bands).

It will be found, in general, that increasing elaborateness of ornamentation at the shoulders of these figures corresponds to the multiplication of bands, and that both advance with the growth of perfection in technique.¹

It remains to note the other decorative elements, which, although they are not of sufficient importance to form a basis for classification, yet display a very considerable development in our series of figures, — namely, the earrings, the hair, and the headdress. Of the earrings not much need be said. They begin comparatively late in the series (the small size of the earlier figures naturally precludes the use of such ornaments) with much-decorated “bird-faced” figures, and develop from the simple disk to the disk with a central boss,² the rosette,³ and even the disk with pendant.⁴

The development of the hair is more complex. In the earliest figures, as we have before stated,⁵ the hair is not represented at all, or at best it is marked by a few parallel grooves at the back of the head or by two or three strips of clay attached to the back of the head and falling to the shoulders, most usually notched or twisted. Then one or two strands are brought forward over the shoulders,⁶ while a corkscrew curl is added to each side of the forehead.⁷ The use of the simple mass to represent the hair as it falls to the shoulders⁸ seems to be a later development. It is employed almost exclusively in the most advanced heads,⁹ where the front hair is usually represented by two notched bands,¹⁰ or by large curls which leave between them a wide parting.¹¹ In a few cases we find over the forehead a row of small, separate curls, similar to those commonly given to archaic heads in stone.¹²

In the headdress we find a development very similar to that which we have noted for the hair. Very early in our series, as we have already pointed out,¹³ we find a simple band of clay wound about the head to represent the stephane. This is often so broad and high that it might more properly be called a polos or stephanos.¹⁴ To this is often applied a single boss,¹⁵ or a double boss,¹⁶ or even a number of bosses in a row, with perhaps a double boss in the middle.¹⁷ In one case¹⁸ the edge of the stephane is pierced with holes, apparently to receive metal ornaments. But the stephane (stephanos, polos) is not the exclusive headdress of our figures. As the coroplast came to model larger and taller figures, he evidently began to feel the need of a more stately headdress to correspond to the elaborate adornment of the body. Thus we find that in the later figures the most common headdress is the high, bell-shaped calathos.¹⁹ This is usually bound about the bottom with a taenia, and is often decorated at the top with bosses.²⁰ Most remarkable, of all, however, are the horn-like adornments which are the final deco-

¹ It is not always possible to use the number of bands as an absolute criterion, for there are cases in which other decorative elements, such as applied layers of clay, representing the garments (cf. Nos. 56, 60, 61), or the infants which the *κουροτρόφος* figures hold (cf. Nos. 37, 57, 58, etc.), take the place of the bands. But, for the most part, the distinction of the classes according to the number of bands upon the figures will be found to have been carried out with considerable strictness.

² Cf. No. 53.

³ Cf. Nos. 54, 104.

⁴ Cf. No. 94.

⁵ Cf. p. 4.

⁶ Cf. No. 26.

⁷ Cf. Nos. 25, 45, etc.

⁸ Cf. Nos. 42 and 51 (which are of the Tirynthian Argive class), where the mass is crossed by grooves.

⁹ Cf. Nos. 93, 94, 97, 98, 99, etc.

¹⁰ Cf. Nos. 94, 97.

¹¹ Cf. Nos. 101-104.

¹² Cf. No. 105.

¹³ Cf. p. 4.

¹⁴ Cf. Nos. 40, 53.

¹⁵ Cf. Nos. 7, 33, 53, 96.

¹⁶ Cf. Nos. 44, 97.

¹⁷ Cf. Nos. 40, 42, 98, 99.

¹⁸ Cf. No. 54.

¹⁹ Cf. No. 94.

²⁰ Cf. Nos. 98, 99.

ration of this later type.¹ These consist of a strip of clay, bulging slightly at the extremities, placed about the calathos in such a way that the two ends rise above it in front. A boss is sometimes added to each end for further effect,² and between the "horns" a disk or rosette is quite usual.³ We are inclined to regard these "horns" as an attempt to represent plumes of some sort, although we know of no parallel cases.⁴

Another point which naturally arises in connection with these "Argive" figures is the question, Whom do the figures represent? Now the most striking fact about them (as, indeed, about the human figures in general) is the great preponderance of female forms. In the whole find of terra-cottas, there are but sixty-six figures which are male beyond a doubt, and of these forty-eight belong to the well-known type of the mounted warrior, and eight to the type of the Egyptian Bes.⁵ This fact would naturally lead us to the conclusion that our female figures represent the chief goddess of Argos, Hera, and many arguments can be brought to support this interpretation. Thus, the great majority of our Argive figures are seated, and we know from the Pirasus story and from Pausanias's account of an early image of Hera, as well as from his account of the statue of Polycleitus, that Hera was conceived at Argos as a seated divinity. The headdresses which we have noted upon our figures, *stephane*, *polos*, *stephanos*, and *calathos*, belong to the regular wardrobe of Hera;⁶ while as a goddess of childbirth⁷ she could be represented with an infant in her arms. But such arguments as these are extremely fallible; and for the early time, especially, we certainly cannot postulate any such fixity in the functions and attributes of the goddess as such statements imply. The proof of this fact is not far to seek; for in Tegea, where, as we have already stated,⁸ we find figures exactly similar to all classes of our Argive terra-cottas, these figures were dedicated to Demeter.⁹ The headdresses that we have mentioned are found in the Tegean figures, as in those of Argos, and they are by no means the exclusive property of Hera. The *κουροτρόφος* figures are much better explained as human mothers,¹⁰ especially as Hera (and the divinities of the Argive plain in general) is rarely represented with an infant in her arms,¹¹ and the epithet *κουροτρόφος* for Hera rests upon very doubtful authority.¹² Again, the groups of two seated females,¹³ while they might be taken as Hera and Hebe

¹ Cf. Nos. 100-104.

² Cf. No. 103.

³ Cf. Nos. 100, 104.

⁴ Mr. De Cou suggests that these adornments may be borrowed from the headdress of Isis, and that the disk or rosette may then represent the sun. If this theory be correct, we should then find in these figures another trace of Oriental influence.

⁵ It may be said that the early numbers of our series are so rude as to be practically sexless. But the early development of the hair and the ornaments, which points distinctly to female figures, as well as the great preponderance of female figures in the later types, make it practically certain that our early figures, also, are meant to represent females.

⁶ Cf. for the *polos*, the well-known head from Olympia, Bötticher, *Olympia*, p. 237, fig. 44; for the *stephane*, Overbeek, *Kunstmythologie*, pls. ix., x.; for the *stephanos*, *ibid.* vol. III. Hera, Münztafel ii.; for the *calathos*, *ibid.* Münztafel i. Nos. 1-9.

⁷ Cf. on Hera Eileithyia, General Introd. vol. I. p. 8.

⁸ Cf. p. 9. note 6.

⁹ Cf. Lenormant, *Gaz. Arch.* 1878, pp. 44 ff.

¹⁰ On the analogy of the woman with an infant on her back (No. 39), the woman kneading bread (No. 24), and the performers upon musical instruments (Nos. 21, 22, 23). This is the interpretation which we are inclined to favor for these *κουροτρόφος* figures. A third possibility, that these figures are modifications of the Oriental Astarte, seems to be excluded by the fact that they bear such close resemblance to the Argive type, and are plainly only a development of it.

¹¹ Cf. O. Müller, *Handbuch d. Arch. d. Kunst*, § 353, 1; and Tsountas, *Ἐφημερίς Ἀρχαιολογική*, 1888, p. 170.

¹² Suidas, s. v. "Ὀμηρον, gives the verses:—

κλυθί μοι εὐχομένῃ, κουροτρόφῃ, δὸς δὲ γυναῖκα,
τήνδε νέων ἀνήρασθαι φιλότῃτα καὶ εὐνήν,

and adds:—

ἀφίκετο εἰς Σάμον καὶ εὔρε γυναῖκα Κουροτρόφῃ θύουσαν, καὶ λέγει τὰ ἔπη τὰδε.

Bernhardy (cf. Suid. *ed.* Bern. II.¹ p. 1101) refers *κουροτρόφῃ* to Apollo. Athenaeus (XIII. 592) refers the verses to Sophocles, and says the poet calls on Aphrodite.

¹³ Cf. Nos. 59-62.

or Hera and Eileithyia, seem to us, to judge from the analogy of similar groups in later times, to be better taken as representations of the Earth-mother and her daughter, the later Demeter and Koré.¹ In the case of these Argive terra-cottas, therefore, we can only say that they prove to us the existence at the Heraeum, in very early times, of a cult of the primitive female divinity, the real "great mother of the gods," whether we call her Ge, or Demeter, or Aphrodite, or Cybele, or Hera, or perhaps even Athena or Artemis. She was early conceived as a seated figure, and this conception strongly influenced the ideas of later times, when men began to call her Hera, and to reproduce her image in wood and stone. Finally, the use of exactly the form that is employed to represent the goddess for figures that are certainly human² proves conclusively that we are here dealing with one of those early types which are already familiar to us in the seated figures from Branchidae, the "Apollo" figures from all over the Greek world, the standing types of the Acropolis, and many other works.

We have dwelt thus at length upon the "Argive" figures both because they form the most important and characteristic part of our find, and because this type has never heretofore been subjected to the careful study which it deserves, and which, fortunately, our numerous finds of early figures in so unbroken a series enabled us to make.

The remainder of our finds belong, for the most part, to well-known types, and can be dismissed in a few words. Of the Mycenaean figures, the greater part belong to the common type with round or pelta-shaped bodies. The large bull's or cow's head is, we believe, unique in terra-cotta, although this subject is common enough in Mycenaean art in other materials.³ The paucity of figures of this class of terra-cottas at the Heraeum is very striking, in view of the large numbers of them that were found at Mycenae and at Tiryns, and suggests the explanation that these figures were not regarded as appropriate offerings at this particular temple. The Argive style, in fact, had become invested with a hieratic character, and was regarded as the proper object of votive dedication at the Heraeum.⁴ The same remark holds true of figures of Geometric style, of which the paucity is very striking, in marked contrast to the early figures of Boeotia, which are distinctly Geometric.⁵

So, too, even our 283 figures of the Archaic class form a strikingly small proportion of the find, when we consider the prevalence of this class on other early sites.⁶ Here, indeed, the figures themselves seem to show that these archaic terra-cottas are not a natural Argive product. We do not mean to say that they were not made at Argos.

¹ Cf. the argument, pp. 22 f.

² Cf. Nos. 21-24, 39.

³ Cf. the parallels cited on p. 23.

⁴ So at Athens, in early times, the fashion seems to have been for figures of Athena of archaic type (cf. Winter, *Arch. Anz.* 1893, pp. 141 ff.). At Coreyra the popular offering was apparently a figure of Artemis (cf. Lechat, *B. C. H.* XV. [1891], pp. 1 ff.). At Tegea the Argive type was later superseded by an archaic hydrophoros type (cf. Pervanoglou, *Nuove Mem. dell' Ins.* II. pp. 74 f.). In Sicily archaic figures carrying a pig are found in great numbers (perhaps connected with the cult of Demeter and Koré; cf. Liénard, *Gaz. Arch.* 1880, pp. 15 ff.; Caylus, *Réc. d'Ant.* vol. VI. pl. xxxvii.). On the subject of "fashions" in terra-cottas, cf. the remarks of Paris upon the terra-cottas of Elateia, *B. C. H.* XI. (1887), pp. 405-444.

⁵ Cf. Heuzey, *Fig. Ant.* pl. xvii. 3; Jamot, *B. C. H.* XIV. (1890), pp. 207 ff., figs. 1, 2, 5, and pl. xiv.; Martha, *Cat. des Fig. du Mus. d'Athènes*, Nos. 213 ff. These figures are interesting as examples of coroplastic art developing on lines parallel to those which it followed at Argos, yet differing from Argive art in many particulars. In Boeotia, as at Argos, the flat, conventional body of the "bird-faced" type was retained long after the advent of the archaic style of head. In marked contrast to the Argive figures, the standing type is, in Boeotia, the prevailing one, and the ornamentation is almost entirely painted, not plastic. The technique, too, is ceramic, rather than coroplastic, i. e. the paint is applied directly to the clay.

⁶ Cf. the excavations cited in note 4, and especially those conducted by Orsi in Sicily — at Megara Hyblaea (cf. *Mon. Ant.* I. p. 689, esp. pp. 913 ff.), and at Terravecchia (*ibid.* VII. p. 201, and esp. pp. 216 ff.).

The large number of replicas¹ would prove that most of them were made there, if such proof were necessary; but they seem to be the product of outside influences, rather than the result of native development.² So we find a number which show traces of the schools of Rhodes and of Cyprus.³ So, too, the great majority of these archaic figures are standing types, whereas the conception of Hera which prevailed at the Heraeum was, as we have seen, that of a seated figure. Moreover, a number of these archaic figures are shown by their attributes to be representations of goddesses in no way connected with Hera, or even hostile to her. Such are the figures of Artemis and Aphrodite.⁴ For the rest we can only say that the archaic figures without attributes may be meant for statues of Hera, and in many cases, doubtless, were so thought of by the donors; but in many others they may have been meant for priestesses or even persons unconnected with the cult of the goddess, who offer their own image to her. We are again dealing, that is to say, with a type, and all attempts to dogmatize at this stage on the subjects of these figures are futile.⁵

The animals display all the variety usually found in temple offerings. They include horses (both with and without riders), bulls, dogs, pigs, bears, cocks, and birds, and even some less common types, such as the centaur, the serpent, the tortoise, the monkey, and the bull attacked by a lion. It does not seem possible that even the lively imagination of the Greeks can have thought of any very definite association of all these animals with the goddess. But few of the animals represented are sacrificial, so that the idea that they are "substitutions"⁶ for actual sacrifices is in most cases excluded. At best this explanation can hardly apply to more than the cows,⁷ the rams, and the pigs. In most of our figures, therefore, we are inclined to see only examples of the cheap kind of offerings which were sold at the entrance to the temple,—offerings whose value depended not so much upon their intrinsic worth as upon the spirit of the donor.

The same must be said of most of the "various objects" which we have catalogued in our last class. The rough pear-shaped weights⁸ and the cones,⁹ — which were probably meant for use upon the loom,¹⁰ — the spools,¹¹ and the rude oven¹² — probably from a baking scene — are not inappropriate offerings to a female divinity like Hera. So, too, the dish of cakes¹³ and the numerous fragments of tables¹⁴ are doubtless to be regarded in the light of banquets offered to the divinity. The flower-like disks,¹⁵ which occurred in

¹ Cf. Nos. 141, 144, 148, 149, 177, 188, 200, 231.

² Cf. the analogy in the proportion of black-figured vases to those of the Argive-Linear style, pp. 60, 174.

³ Cf. Nos. 207–211, 212, 213.

⁴ So we interpret the figure holding a bow and a deer (No. 179), and the figures which have in their hands a hare (Nos. 176–178), or a flower (Nos. 166, 174), or a fruit (Nos. 172, 173, 197), or a dove (Nos. 166–171, 199, 200). Some of these, to be sure, may be connected with the cult of Hera, as the figure with the wreath (No. 175) probably is. Thus we know that Hera as Eileithyia was represented with bow (cf. vol. I. p. 8); and the fruit of Nos. 172, 173, and 197 may be a pomegranate (cf. Philost. *Apoll. Tyan.* IV. 28: ἡ βόα δὲ μύνη φυτόν τῇ Ἡρᾷ φέρεται). But such attempts are certainly far-fetched, and if we consider the wide distribution of these types (see the references under the separate numbers), the connection with Hera does not seem probable.

⁵ Cf. Furtwängler, 'Aphrodite,' in Roscher, *Lex. d.*

Myth. p. 410: "Doeh ist der Typus ein so allgemeiner, dass er auch für andere Gottheiten, ja auch sterbliche, die Votivgaben darbringen, benützt wurde."

⁶ Cf. Perrot et Chipiez, *Hist. de l'Art*, VI. p. 818.

⁷ It is interesting to note that the large Mycenaean bull's or cow's head (No. 72) has a hole in the top, which may have been meant to receive a bronze axe (cf. the references given in the catalogue, p. 23).

⁸ Cf. Nos. 290, 291.

⁹ Cf. Nos. 283–285.

¹⁰ Pottier and Reinach (*La Nécropole de Myrina*, pp. 248 ff.) explain these cones as cakes "by substitution," and give the literature of the subject. The older interpretation of them as loom-weights seems to us to be preferable.

¹¹ Cf. Nos. 286–289.

¹² Cf. No. 279.

¹³ Cf. No. 267. Cf. also the mould, No. 277.

¹⁴ Cf. Nos. 268–270.

¹⁵ Cf. Nos. 281, 282.

such numbers, have reference, perhaps, to Hera Antheia. But the appropriateness of the foot with a sandal¹ (which seems too elaborate to have been part of a human figure), of the object which we have called a tree,² of the whorls³ and the rings,⁴ it is impossible to see. Here, then, we doubtless again have examples of small, inexpensive offerings, which were turned out by the score by the coroplasts, and served to satisfy those among the poorer classes whose means did not permit them to present more elaborate offerings.

But these, after all, are points of minor importance. The chief interest and value of our find of terra-cottas lies in the fact that they reveal to us—in the figures of the “Argive” classes—the existence of an artistic tradition which began long before the period of the distinctly Mycenaean civilization, and continued unbroken for centuries after it. They thus strengthen us in the position which we have been led to take from a general survey of the whole result of our excavations.

A detailed catalogue of the Terra-cotta Figurines follows. Upon the PLATES (XLII.–XLVIII.) the figures in parentheses refer to the numbers of this catalogue.

I. PRIMITIVE ARGIVE.

1. (PLATE XLII. 1.) Rude standing figure, modeled by hand,—a simple strip of clay, pinched together at the middle to form a waist and a stumpy pair of arms (now broken), and pinched at top into a pointed head. No traces of color. Height, 5 cm. Dark red clay.

Cf. Schliemann, *Tiryns*, p. 150, No. 78.



FIG. 1.

2. (Fig. 1.) Similar figure, arms broken. To each side of the nose is fixed a lump of clay, to represent the eyes. The bottom is rounded to form a base. No trace of color. Height, 4.5 cm. Light yellow clay.

3. (Fig. 2.) Similar figure with a lump of clay attached to each side of the nose to represent the eyes, and another lump on top of head, to form a sort of pilos or cap. The figure is attached to a base and possibly formed part of a group. No traces of color. Height, 5 cm. Dark red clay.



FIG. 2.

Cf. Schliemann, *Tiryns*, p. 153, No. 82.



FIG. 3.

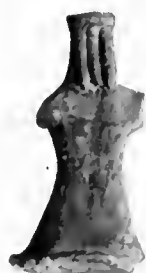


FIG. 4.

4. (Figs. 3 and 4.) Similar figure, with lumps for eyes and a strip of clay wound about the head, forming a stephane. Below this stephane, at back, three strips of clay are applied to represent the hair. The figure stands on a plinth and may have formed part of a group. The body is painted brown; the face is covered with a white slip. Height, 5.5 cm. Clay, reddish yellow.

5. (Fig. 5.) Similar figure, wearing stephane. The body is pierced by a round hole, apparently for the purpose of suspending the figure. No traces of color. Height, 6.5 cm. Red clay.

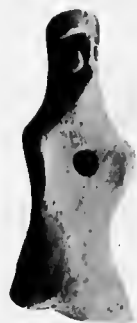


FIG. 5.

6. Fragments of two similar figures with holes for suspension.

7. (PLATE XLII. 6.) Primitive figure, right arm broken. Eyes, the usual lumps. The stephane has a boss added in front. Traces of white slip. Height, 6 cm. Clay, light yellow.

8. (Fig. 6.) Primitive figure, which originally had two lumps for eyes, now lost. The figure is remarkable for the two lumps of clay which are evidently meant for the breasts, although

¹ Cf. No. 276.

² Cf. No. 280.

Cf. No. 294.

⁴ Cf. No. 292.

they are placed very low. Color, red, shading to black (apparently from burning). Height, 5.5 cm. Yellow clay.



FIG. 6.

9. (Fig. 7.) Similar figure, with the usual lumps for eyes. The mouth is rudely represented by a cutting across the "beak." The vertical grooves in the lower part of the figure seem to represent the folds of the chiton. No trace of color. Height, 5.5 cm. Light yellow clay.



FIG. 7.



FIG. 8.

10. (Fig. 8.) Standing male figure with stephane. The eyes are not indicated, but the lower part of the "beak" is drawn out to form a beard, and the mouth is represented by a short cutting. Body and stephane are painted red. Height, 5 cm. Yellow clay.

11. One hundred and eleven fragments of figures similar to Nos. 1-9, showing the same development of hair and stephane, but no development of drapery. They are all of small dimensions, made by hand, of rather coarse clay, and generally show traces of a white coat, with simple line patterns applied in red and black.

II. TIRYNTHIAN ARGIVE.

GROUP 1: SLIGHTLY DEVELOPED PLASTIC ORNAMENTATION (NO DECORATIVE BANDS).

12. (PLATE XLIII. 1.) Seated female figure, simplest form. The figure is made in the same way as No. 1, but it is slightly bent in the middle, and to the back is applied a four-legged support (cf. p. 5, note 1). There is a simple stephane on the head, and the feet are represented by two lumps applied to the bottom of the figure. White slip, traces of red on stephane. Height, 4.5 cm. Dark yellow clay.

13. Seventy-five fragments of figures similar to No. 12, exhibiting no adornment other than stephane and slight development of hair. They are usually covered with a white coat, and decorated with red and black lines.

14. Fragment of figure similar to No. 12, broken at waist, and at neck and left shoulder. Above the waist are two holes for inserted arms, with fragments of arms still in place. Traces of white. Height, 6.5 cm. Clay, reddish yellow.

15. (Fig. 9.) Bearded seated figure, broken at waist and lacking arms. Eyes, the usual lumps. Round pilos-like cap. Mouth, a deep ent, and beard marked by four vertical grooves. White slip. Height, 6.5 cm. Yellow clay.



FIG. 9.

16. (Fig. 10.) Seated male figure in high pilos, with strap passing under chin. The figure has a band across the mouth, plainly for holding a flute, which is now broken away. The *aïdoia* are represented by a round lump of clay. Traces of white. Height, 8.5 cm. Red clay.

Cf. for headdress, Schliemann, *Tiryns*, p. 159, No. 93; Furtwängler, *Jahrbuch*, 1887, p. 202, No. 8; Furtwängler, *Olympia, Ergebnisse: Die Bronzen*, pl. xvii. 288.

17. (Fig. 11.) Seated figure with feet extended. Part of face, both arms, feet, and legs of chair missing. The figure has a stephane with boss, but otherwise is unadorned. A strip of clay over each temple forms the hair. White slip. Height, 8 cm. Length, 6.5 cm. Yellow clay.



FIG. 11.



FIG. 10.

Cf. Schliemann, *Tiryns*, p. 159, No. 91.

18. Two similar figures, badly broken.

19. Similar figure, with band over mouth, apparently for holding flute. Traces of white coat. Height, 5 cm. Length, 6 cm. Yellow clay.

20. Similar figure, broken at waist, legs of chair also broken. At left side, near feet, are traces of a smaller figure, also broken at waist. No traces of color. Height, 5 cm. Length, 6.5 cm. Yellow clay.



FIG. 12.

21. (Fig. 12.) Flute player of uncertain sex. Right arm and right half of flute broken away. With the exception of the face and the flutes, the figure is entirely covered with dark red paint. Height, 7 cm. Light yellow clay.

22. (Fig. 13.) Performer on the syrinx — the “bird-faced” type, with simple stephane. The nature of the Pan’s pipe is clearly indicated by a cross strip at top and bottom of the instrument. Broken at bottom. Height, 4.5 cm. Red clay.



FIG. 13.

23. (Fig. 14.) Similar figure with double flute. Stephane adorned with a boss. Red stripe indicates the flute strap. Height, 5.5 cm. Red clay.

24. (Fig. 15.) Woman kneading bread. She wears a stephane, and has a lump of clay attached to each shoulder, to represent dress-pins (*περόναι*). Small disks of clay represent the dough in the pan. Traces of white on arms of woman and on pan, of red on stephane, of brown on woman’s body. Height, 6 cm. Clay, reddish yellow.

Cf. Schliemann, *Tiryns*, p. 149, No. 76. The motive is very ancient — it occurs in the oldest sculpture of Egypt; cf. Perrot et Chipiez, *Hist. de l’Art*, I. p. 74, fig. 48, and p. 662, fig. 448.



FIG. 16.

25. (PLATE XLII. 3.) Standing female figure, showing an attempt at more careful representation of the hair. Under the stephane there is a large curl over each eye, and an oblong strip of clay at the back of the head, now mostly broken away. Stephane, red; hair and body black. Height, 8 cm. Red clay.



FIG. 14.



FIG. 15.

Cf. Schliemann, *Tiryns*, pl. xxv. k.

26. (Fig. 16.) Flute player (flutes now missing), showing further development of hair into two strands in front of each shoulder, and four curls across forehead. There is also an attempt to represent the feet. Traces of white slip. Height, 8.5 cm. Clay, dark yellow.

GROUP 2: CONSIDERABLY DEVELOPED PLASTIC ORNAMENTATION (ONE BAND).

27. (PLATE XLII. 4.) Standing figure, with close-fitting necklace (cf. p. 11) extending to nape of neck, and bosses at shoulders, to represent *περόναι*. The figure has a stephane. Traces of white. Height, 7.5 cm. Red clay.

28. (PLATE XLII. 12.) Similar figure, with wide band stretched from shoulder to shoulder, surmounted by round bosses (cf. pp. 10 f.). The hair is represented by curls across the forehead, bound with a taenia. White slip, traces of red lines on band and down left side. Height, 11 cm. Light yellow clay.

29. Forty-three fragments of figures similar to Nos. 27 and 28, adorned with one necklace only. Almost all have the stephane, and show some development of the hair. They also have very considerable traces of white coat and ornamentation in red and black.

30. (PLATE XLII. 2.) Standing figure, arms, head, and feet broken away, with narrow band which passes over left shoulder and under right arm. About the neck are traces of a close-fitting necklace. Slight traces of white. Height, 6 cm. Yellow clay.

Here the band seems clearly to represent the fold of an outer garment, arranged in the manner of the later himation (cf. the Acropolis statues, *Musées d’Athènes*, pls. ii. and iii.; Henzey, *Fig. Ant.* pl. xii. 4; and our own Nos. 163, 164, and 175). The oblique band is very similar to that of the primitive vase in human form from Hissarlik, Schliemann, *Ilios*, p. 343, No. 235.

31. Two fragments of similar figures, with bands passing from left shoulder to right side.

32. (Fig. 17.) Standing figure without stephane. The hair is formed by curls arranged about a centre. The arms and all the upper part of the body were enveloped in a thin layer of clay, which formed a sort of shawl (now preserved only on right side). No traces of color. Height, 7 cm. Greenish yellow clay.

33. (PLATE XLIII. 2.) Seated female figure with stephane, similar to No. 12, but decorated with a necklace from shoulder to shoulder. The eyes are not indicated plastically. The stephane has a boss. The feet are indicated by two projections. Covered with white slip, marked with red and black horizontal lines on chiton and ehair. Height, 9 cm. Red clay.

Cf. Henzey, *Fig. Ant.* pl. xl. 1 (from Cyrenaica).

34. (PLATE XLIII. 3.) Similar figure, with ends of necklace enlarged into *περόναι*. The figure has no separate support, but is held upright by two legs attached directly to the back. Covered with white slip, traces of red lines at neck and waist. Height, 9.5 cm. Red clay.

Cf. Schliemann, *Tiryns*, p. 157, Nos. 87 and 88; and on the whole series of seated figures, the figures from Tegea (Martha, *Cat. des Fig. du Mus. d'Athènes*, Nos. 541, 542; and Lenormant, *Gaz. Arch.* 1878, pp. 44 ff.).

35. Four hundred and ninety-one fragments of figures similar to Nos. 33 and 34, with stephane and single necklace, both with and without separately made chairs. They all show the same system of decoration in red and black lines on a white ground, with occasional use of color applied directly (for the bodies). Clay, usually red or yellow.



FIG. 17.

GROUP 3: ELABORATE PLASTIC ORNAMENTATION (TWO OR MORE BANDS).

36. (PLATE XLII. 5.) Standing figure with two necklaces. The hair was formed by four notched strands at back of head, and shows traces of a stephane. Hair, eyes, and body painted black, face and breast natural color of the clay. Height, 6.5 cm. Dark yellow clay.

37. (PLATE XLII. 11.) Similar figure with two necklaces and *περόναι* as *κουροτρόφος* (with an infant in her arms). The head of the child is broken away. White slip, traces of red on necklace, on infant, and on lower edge of chiton. Height, 7.5 cm. Red clay.

Cf. p. 13.

38. Six almost identical figures carrying infants, both with and without necklaces.

39. (Fig. 18.) Standing female figure, carrying a child on her back; he sits on her shoulders and grasps her around the head. She wears the customary stephane with boss. Hair, two strands over eyes. General traces of white. Height, 5.5 cm. Gray clay.

Cf. the figure given by Henzey, *Fig. Ant.* pl. iv. 4, which has a child both at front and at back.



FIG. 18.

40. (PLATE XLII. 10.) Standing female figure of usual type in stephane, with one double and (originally) two single bosses. She wears a close-fitting necklace with pendant, and long double necklace across shoulders, between two round pins. Plentiful traces of white slip, and of red lines on stephane and necklaces. Height, 8 cm. Dark yellow clay.

41. (PLATE XLII. 13.) Similar figure, but without stephane. The hair was originally long curls, now broken away. She has three necklaces, consisting of a twisted band between two plain ones, and double bosses represent the dress-pins. The fold of the chiton between the legs seems to be represented by a slight indentation, but this might be due to a defect of the clay. The body is painted black. Height, 7.5 cm. Gray clay.

42. (PLATE XLII. 7.) Similar figure in high stephane with three bosses. Hair, simple mass, crossed by horizontal grooves. Long necklace with three pendants across breast. Large round pin on left shoulder; the one on the right is broken away. The feet are carefully indicated by wedge-shaped projections, and the figure stands on a plinth. White slip, with traces of red on

necklace, pin, hair, and stephane; body, from waist down, black. Height, 10 cm. Dark yellow clay.

43. (Fig. 19.) Fragment of figure with two necklaces and peculiar form of pin on right shoulder; this consists of a wedge-shaped piece of clay, and is plainly only an elongated form of the round pin of earlier numbers; it forms a transition, however, to the elaborate pins of later numbers. Hair two large curls, surmounted by stephane. Traces of white. Height, 5 cm. Yellow clay.



FIG. 19.



FIG. 20.

44. (Fig. 20.) Similar female figure, with elaborate applied ornaments. She has a stephane with double boss, bound about the bottom with a taenia. The hair is represented by four spiral curls over forehead, three long curls at back. Four necklaces (one twisted, one with pendant), and under them (appearing at left side) two more bands, which can hardly be anything but an attempt to represent the fold of the chiton. On the right shoulder is an elaborate pin, consisting of two cross-bars and two bosses, with traces of a third cross-bar (type of No. 84). The feet are marked with three grooves each. A wide band of clay, broken at both extremities, appears under right arm, and there are traces of a similar band under left arm. These may have served to form a loop for suspension, for the figure could never have been intended to stand. White slip, with red lines on face and breast; stephane, taenia, and body red; hair black, black band at waist and at bottom of chiton. Height, 9 cm. Clay, dark yellow.

45. (PLATE XLII. 8.) Similar figure, with deep indentation in beak, which brings out nose and chin. The figure wears a simple stephane. Hair, two large curls over forehead, six notched strands at back. There are three necklaces (simple band between two notched bands), with flower-shaped *περόνη* on left shoulder. Face and necklaces show thick white slip; the body has horizontal red lines. Height, 13.5 cm. Clay, greenish yellow.

46. (PLATE XLII. 9.) Similar figure with the same indentation for mouth. The hair consisted originally of thick twisted braids (two pieces only are preserved). Four necklaces — twisted band between two plain ones, topped by waved band. The fibulae were elaborate; each consisted originally of two large bosses of three concentric circles, with small bosses between. Thick white slip on face and necklaces, narrow red line at waist. Height, 11.5 cm. Clay, reddish yellow.

47. Thirty fragments of figures similar to Nos. 40–46, with two or more necklaces. They are all crudely made, often without trace of color, although all probably had at least the usual white coat with line decoration.

48. Fifteen fragments of bodies, broken below waist, so that it is impossible to determine scheme of decoration.

49. (PLATE XLIII. 6.) Seated figure with stephane (broken at front) and two necklaces; also originally with pins at the shoulders. The hair is treated as a single mass over each eye. Customary white slip, some traces of red horizontal lines on neck (to represent another necklace?), necklace, waist, and lower part of chiton. Height, 12.5 cm. Clay, red.

50. (PLATE XLIII. 7.) Similar figure with four necklaces (three plain bands and one twisted band), seated in wide chair. Hair is treated as one single, large curl on top of head. White slip. Height, 9.5 cm. Dark red clay.

Cf. Schliemann, *Tiryns*, p. 156, No. 86.

51. (PLATE XLIII. 10.) Fragment of similar figure, broken at waist and right shoulder, with three necklaces (a plain band between two twisted bands), ending on each shoulder in two round bosses. The mouth is distinctly marked by a straight groove across beak. The figure has earrings consisting of one boss applied to another, and stephane. The hair is treated as a single strand over each eye, notched in front, as a mass at back, criss-crossed with vertical and horizontal grooves, and notched at sides of head. Traces of white. Height, 5.5 cm. Dark yellow clay.

52. (Fig. 21.) Upper part of female figure, with a remarkable brooch on right shoulder — a large spiral, adorned with rosettes and bosses. (In this single case, it seems possible that this ornament is of a floral nature, and has some connection with Hera Antheia; cf. p. 10.) Hair, a large mass, which covers head and shoulders, hatched with horizontal and vertical grooves. The earrings have the form of rosettes, with raised bosses in the centre. Traces of white. Height, 5 cm. Red clay.

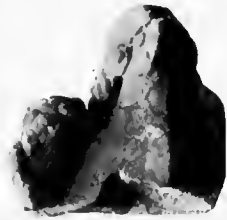


FIG. 21.

53. (PLATE XLIII. 8.) Similar figure, elaborate decoration. It has six necklaces, four plain and two twisted bands; the lower one passes around the back. Earrings in the forms of double bosses. The stephane also has a large boss. The hair is treated as a long notched curl over each eye, with five spirals at back of head. Traces of white, with red on stephane. Height, 7 cm. Reddish yellow clay.

54. (PLATE XLIII. 9.) Elaborate figure, broken at waist; left arm and right forearm missing. The figure has no necklaces, but a deep groove runs across the breast and around the shoulders and back, to mark the edge of the chiton. The stephane is pierced by three holes, probably intended for inserted ornaments. Earrings in the form of rosettes. The hair consists of two bands above forehead, filled with irregular lines of small holes, — a not altogether unsuccessful attempt to indicate the texture of the hair. Below these bands the hair falls in spiral curls (originally there were two which fell in front of shoulders, and four at back), which remind one strongly of metal work. The treatment of the body at the waist marks a style which is not constructively that of terra-cotta figures, but is more like the technique of beaten metal. On the shoulders are fibulae in the form of four-leaved clovers (cf. p. 10). Some traces of red on chiton and on stephane. Height, 8.5 cm. Gray clay, now black from burning.

55. Five hundred and seventy-seven more or less broken seated figures of the type of Nos. 49–53, with two or more necklaces, usually with stephane and pins. Some traces of decoration in red and black lines on a white ground, with occasional application of paint directly to the clay.



FIG. 22.

56. (Fig. 22.) Upper part of "bird-faced" figure, broken at waist. Hair, single wavy curl above forehead. The figure is entirely wrapped in a sort of shawl, which rises to a point over the head. Thick white slip; traces of red and black on fragment of back of chair. Height, 6.5 cm. Yellow clay.

Cf. No. 32 and the figure from Tegea, Martha, *Cat. des Fig. du Mus. d'Athènes*, Nos. 554–558.

57. (PLATE XLIII. 4.) Seated female figure, holding infant (heads of both figures missing). The seated figure is of the regular Tiryntian type, with a necklace from shoulder to shoulder. The child is an oblong lump of clay, with a groove at bottom to mark the feet. Some traces of white. Height, 6 cm. Red clay.

Cf. p. 13.

58. Fragments of seven similar figures, all of the regular "bird-faced" type, to which a lump of clay is added to represent a child. Some traces of white. Clay, red to yellow.

59. (PLATE XLIII. 11.) Fragment of female figure, broken at neck and waist, on wide seat, which was evidently intended for two figures. The fragment preserved wears a waved necklace of two bands, and was doubtless of the "bird-faced" type. In her lap she holds an object like a broad roll or band, marked with five grooves, which evidently extended to the other figure of the group. Slight traces of white, with red on taenia and black on the body of the woman. Height, 6.5 cm. Length, 8.5 cm. Reddish yellow clay.

60. (PLATE XLIII. 5.) Female figure from a similar group (the seat is here broken close to the figure, but was plainly intended for two figures, as it shows no traces of legs at the point of breakage. The face is of the usual "Tiryntian Argive" sort, with a single mass of hair over each eye. The entire figure is wrapped in a mantle (cf. No. 56) meeting in front, which rises to a point above the head. In the lap are traces of a roll or band, similar to that of No. 59. Traces of brown on hair and lower part of chiton. Height, 8.5 cm. Reddish yellow clay.

61. (Fig. 23.) Similar female figure from right hand side of group. The mantle is here broken at the back, while in front it leaves the neck and shoulders bare. The figure has a simple stephane and a single necklaee, adorned with three bosses. White slip, traces of red on necklace. Height, 6 cm. Clay, reddish yellow.



FIG. 23.

62. Fragment of a similar group of large size (only left hand figure preserved, broken at shoulder and at lower right hand corner). In the lap is a fragment of a broad band, similar to the bands of Nos. 59 and 60. General traces of white. Height, 11 cm. Red clay.

The interpretation of these groups is an interesting problem. So far as we can judge, both the figures were feminine, for in Nos. 59, 60, and 62 we have the left hand figure of the group, and in No. 61 the right hand figure, and these are all feminine. Moreover, the traces of the second figure, preserved on the seat of No. 59, point to a female rather than to a male figure. This fact at once declares against the theory that we are here dealing with a representation of Zeus and Hera, a sort of *ἱερὸς γάμος* (such as the group given by Overbeck, *Kunstmythologie*, Hera, fig. 4 a, from Gerhard, *Ant. Bildwerke*, pl. i.), which we should most naturally expect to find at a sanctuary of Hera.¹ The association of Hebe with Hera, as she was later associated with her in the group of Polycleitos and Nankydes, seems hardly probable at the early date to which we must assign these groups. We are reduced, then, to the view that we have here an early form of two female divinities like the later Demeter and Koré. (For another very primitive group of these goddesses, cf. Henzey, *Fig. Ant.* pl. xiii. 3; later examples are pls. xviii. bis. 3; xxiv. 1. Cf. the same author's article, 'Groupe de Déméter et Koré,' in *Mon. grecs pub. par l'Assoc. pour l'encouragement des études grecques en France*, 1876.) The roll may then be the symbol of the bond between the two goddesses.

63. Four hundred and thirteen fragments of bodies of the early seated type — lower parts only preserved. They usually show some traces of the white coat, and often are decorated at the lower edge and at the waist with simple line patterns in applied red and black.

64. Two hundred and fifty-nine detached heads of the "bird-faced" type, with round lumps for eyes, and (usually) simple stephane. Traces of the white coat are common, and the stephane is often red.

III. MYCENAEAN.

65. (Fig. 24.) Fragment of female idol of the usual Mycenaean form — round body — broken at waist and neck. Ornamentation in wavy lines, brown to black. Height, 4.5 cm. Fine yellow clay.

Cf. Schliemann, *Mycenae and Tiryns*, pl. C, fig. m.

66. Nine fragments of similar figures, same clay, same ornamentation.

67. (Fig. 25.) Female figure with arms raised (pelta-shaped body.) Ornamentation in red lines. Height, 8 cm. Fine yellow clay.



FIG. 26.

Cf. Schliemann, *Mycenae and Tiryns*, pl. B, figs. e and f.

68. Thirteen fragments of similar figures, same clay, ornamentation in red, changing to brown and black.

69. (Fig. 26.) Female idol with arms (two applied strips of clay) crossed below breasts, which are also represented plastically, by applied disks. Broken at top and bottom. Ornamentation in red lines. Height, 5.5 cm. Fine yellow clay.

Cf. Schliemann, *Mycenae and Tiryns*, pl. C, fig. l.

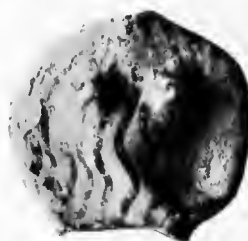


FIG. 24.



FIG. 25.

¹ The Heraea mentioned by Paus. (II. 24. 2) probably had some relation to the *ἱερὸς γάμος* (cf. Daremberg et Saglio, *Dict. des Ant.* 'Hieraos gamos,' p. 179). On the whole subject, cf. *ibid.* pp. 177-181; Roscher, *Lex. der Myth.* I² p. 2098; Förster, *Die Hochzeit des Zeus u. der Hera*, Breslau, 1867.

70. (Fig. 27.) Body of Mycenaean figure with arms raised, broken at top and bottom. The breasts are connected by a crescent-shaped band (meant to represent a neck-lace? cf. No. 36, and the Tirynthian Argive figures generally). Usual wavy lines, shading from light to dark brown. Height, 3.5 cm. Reddish yellow clay.



FIG. 27.

71. Twenty-six fragments of Mycenaean ware, so broken that the exact form cannot be determined; same fine clay, with ornamentation in wavy lines.

72. (Fig. 28.) Large bull's or cow's head, broken at neck and minus horns. Ornamentation in light red, straight lines on forehead and nose, circle around eyes and end of nose, hatched lines on horns, filling of double squares on cheeks, and peculiar ornament at back of neck (Fig. 28 b). In the middle of the forehead is a vertical hole, possibly meant to contain a bronze axe or some other ornament (cf. Schliemann, *Mycenae*, p. 218, figs. 329, 330; and the large silver head, *ibid.* p. 216 f., figs. 327, 328). The theory of Perrot (*Histoire de l'Art*, VI. p. 822), that this axe symbolized the axe used to slaughter the victim, seems to us probable. Height, 8 cm. Width, 10.5 cm. Fine yellow clay.



FIG. 28 b.

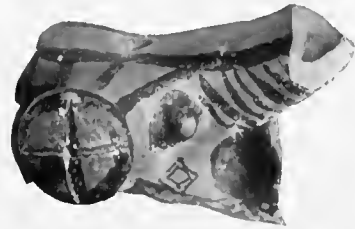


FIG. 28.

73. (Fig. 29.) Body of horse, broken at legs and neck. Line ornamentation in brown, shading to black. Length, 7.5 cm. Fine yellow clay.

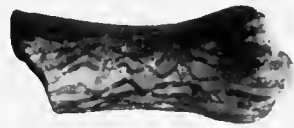


FIG. 29.

74. Nine fragments of other animals, much broken, same clay, same ornamentation.

IV. GEOMETRIC.

75. (Fig. 30.) Rude round-bodied figure, overladen with ornamentation. It presents many analogies to the elaborate Tirynthian Argive figures. The nose was originally of the "beak" type. The eyes are incised triangles. Ear very large, with large pendant. The hair was a large mass, now broken away. A single band passes from the neck under each arm, and there are two simple necklaces, which carry a large brooch, broken at lower edge. On the shoulders are "clover-leaf" pins, with five bosses each. The decoration in color is Geometric (Dipylon), in red paint, shading to black. It consists of horizontal lines, zigzags, and dots below waist, of dots alone on necklaces, pins, and brooch. Height, 12.5 cm. Reddish yellow clay.



FIG. 30.

Cf. pp. 6 f.

76. (PLATE XLVIII. 13.) Geometric horse, legs broken. The decoration is entirely in straight lines, except at shoulder, where there are two curved lines. This horse is very similar to the horses which are so common upon the covers of Geometric vases (cf. Rayet et Collignon, *Histoire de la Céramique Grecque*, p. 33, fig. 21), and perhaps came from a vase. Color, lustrous black. Height, 9 cm. Yellow clay.

Among the other animals of Class IX. several show traces of Geometric influence in their decoration, but in none are these traces so pronounced as to justify their transference to the Geometric class.

Cf. p. 6.

V. ADVANCED ARGIVE.

77. (Fig. 31.) Seated female figure, varying from primitive type only in that the head has eyes, nose, and mouth carefully modeled. The face is of pronounced archaic type—mouth turned up at corners, eyes wide and staring. The body is still a mere oblong piece of clay; it shows traces of two necklaces. General traces of white. Height, 7.5 cm. Clay, red.



FIG. 31.

Cf. Schliemann, *Troyns*, p. 160, No. 95.

78. (Fig. 32.) Similar figure, broken at waist, and lacking right arm. Face of marked archaic type—eyes, protruding masses. Hair, single long curl over each shoulder, topped by stephane with (originally) seven small bosses. The breasts were modeled separately and applied, as is evident from depression to receive right breast. In the hand, the thumb and the fingers are distinguished, and a hole is left between them (for holding an object?). Traces of white, of red on stephane. Height, 8 cm. Red clay.



FIG. 32.

79. (PLATE XLIV. 2.) Seated figure, which shows some attempt at modeling the body. The swell of the breast is quite well reproduced, the hair is moulded with the face, the ear is fairly well given, although placed too high. The stephane has long ends behind, and thus forms a sort of taenia. The dress-pins are of the usual "boss" type. The band is here plainly a necklace, for the fold of the chiton is reproduced at the neck. There is no chair, but only two legs attached to the back of the figure. Color, white, with red on necklace, at waist, and on lower edge of chiton. Height, 12 cm. Light yellow clay.

80. (PLATE XLIV. 1.) Flat-bodied figure (head missing), seated in elaborate chair. She wears three necklaces—the second has three pendants, and the third ends in small round pins. On the back and arms of the chair are round bosses. Ground color, white; the shorter necklaces are red; the long one has oblique lines; back of chair, vertical lines; arms of chair, horizontal lines; bosses, radiating lines; broad band at waist and below knees—all red. Height, 8 cm. Yellow clay.



FIG. 33.

81. (Fig. 33.) Fragment of seated figure, broken at neck and below waist. Simple necklace with pendant, followed by twisted necklace, and wide band, which is probably here the fold of the chiton. The fragment on the right shoulder is part of a large fibula. The figure is interesting as showing the method of attaching the head in these advanced Argive figures; the body was drawn out into a wedge-shaped projection at the top, upon which the head was fitted; the joint was then covered by a necklace in front and by the mass of the hair behind. This figure also shows the legs of chair attached directly to the figure. General traces of white; slight traces of red on ornaments. Height, 12 cm. Clay, red.

82. (Fig. 34.) Fragment of right shoulder, with fibula of the usual bronze type (cf. p. 10). The figure has two twisted necklaces, and the fold of the chiton is distinctly marked by an applied band of clay; to this is affixed the fibula in form of a semicircle, with two pairs of rings for decoration. Slight traces of white, and of red on fold. Height, 4 cm. Reddish yellow clay.

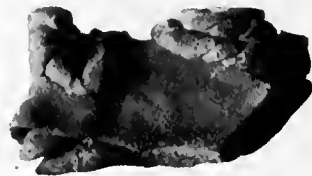


FIG. 34.

83. (Fig. 35.) Body of figure, which shows greatest development of fibula. This here consists of a long bar, decorated with rosettes, and with cross-bars of dumb-bell shape. Four bars and three rosettes are preserved, and this is probably the original number, as the pin begins to narrow considerably at the points of breakage. The ends undoubtedly curved forward, as in No. 84. The figure has two necklaces (one twisted) and distinctly marked fold. Traces of white on neck, necklaces, fibula, and back, of red on fold and on cross-bars of fibula. Height, 12.5 cm. Clay, red.



FIG. 35.



FIG. 36.

84. (Fig. 36.) Fibula of most elaborate type, broken from its figure. It has three cross-bars and two rosettes, and curves forward at the ends. Ground color white, cross-bars marked with

red and black criss-cross lines, rosettes with radiating red and black lines; lower tip red. Height, 7 cm. Clay, yellow.

Cf. pp. 11, 242.

85. (Fig. 37.) Head and left arm of seated, flat-bodied figure, with an infant on her arm (only legs and feet of infant preserved). Of the hair, only a single mass, with horizontal grooves, is preserved over the left temple. The figure wears a necklace with three pendants. General traces of white, red lines below necklace, red band at infant's knees. Height, 8 cm. Red clay.



FIG. 37.

Cf. p. 13.

86. (PLATE XLIV. 3.) Large seated female figure, broken at neck and at left lower edge. She held an infant in her arms, of which traces are preserved only in her lap. Elaborate adornment with double necklace, which carries two pendants at the sides, double waved band, double straight band, and wide fold. The pins, strangely enough, are only small disks, as in the earlier types. Left arm disproportionately short. The chair was made

separately. Traces of white, with applied red on upper body and child. Lower body is painted brown with red horizontal lines. Height, 18 cm. Yellow clay.



FIG. 38.

87. (Fig. 38.) Similar *κουροτρόφος* figure with large infant on left arm. The infant's head is missing. Both woman and child are entirely enveloped in a thin layer of clay, which includes the back of the chair as well (cf. Nos. 56 and 60); but a break on the right side shows that the figures were complete before the application of this layer. The woman has a necklace with pendant, which was entirely hidden. The

child wears the chiton, with small, round pins at the shoulders. The woman's face is round, with protruding eyes. The hair is treated in notched strands. Traces of white, of red on shawl. Height, 7.5 cm. Yellow clay.



FIG. 39.

88. (Fig. 39.) Bust of very large seated figure, with three necklaces

(plain necklace between two twisted ones), double waved band and wide fold. On the back are traces of hair treated as a mass, and of back of chair. General traces of white, with red on fold. Height, 12 cm. The entire figure must have been fully 40 cm. tall. Red clay.

89. (Fig. 40.) Similar large fragment, with three necklaces and wide fold, topped by two narrow bands with round pendants. Traces of white, fold red. Height, 10 cm. Yellow clay.



FIG. 40.

90. (PLATE XLIV. 4.) Torso of seated figure with very elaborate adornment. About the neck runs a simple necklace decorated with a line of holes, followed by a twisted chain with large pendants, which are decorated alternately with grooves and rows of holes. The chiton is a distinct layer of clay. From shoulder to shoulder, over the chiton, runs a waved band, adorned with fine holes; between the turns of this band are rosettes (an imitation of lace? or should we find here a trace of the metal ornaments found by Schliemann, which were intended to be sewn to the

garment? cf. p. 11). The pins are of the "clover-leaf" type, with double bosses in the centre, and single bosses on the leaves. At the back are traces of curls, and two notched bands are stretched from shoulder to shoulder over the chiton. General traces of white on neck and necklaces, body brown. Height, 8 cm. Clay, light yellow.

91. (PLATE XLIV. 5.) Similar elaborate torso. The chiton is a separate layer of clay. Two twisted necklaces. Over the chiton in front is stretched a waved stripe, decorated with incuse disks (such as are found in ceramic ware) followed by a line of pendants, with similar incuse disks, bosses at top and notches at bottom (cf. p. 11). The pin is similar to that of No. 90, but larger. Behind, there are traces of curls and a line of pendants from shoulder to shoulder. Traces of brown paint on chiton. Height, 8 cm. Clay, yellow.

92. One hundred and eighty fragments of figures similar to Nos. 77-91. The plastic decoration is throughout very elaborate; the painted decoration consists sometimes of red and black lines on a white ground. Sometimes this treatment is applied only to the upper part of the body, and the lower part is given a solid brown color, applied directly to the clay.

93. (PLATE XLV. 11.) Head and shoulder of advanced Argive type. The headdress is broken away. The hair was a row of curls over the forehead, topped by a notched mass, with the usual simple mass at the back, now broken away. The figure has two close-fitting necklaces with three pendants, followed by three larger ones (one of them twisted), decorated at the shoulder with a pin of the round boss type. The fold of the chiton is represented by two narrow bands; it was held by a large fibula of the usual elaborate kind, of which only the upper part remains. White slip, red on ornaments. Height, 12 cm. Yellow clay.

94. (PLATE XLV. 13.) Similar head and shoulder, color well preserved. Close-fitting necklace with pendant, followed by three others (simple band between two twisted bands) and double waved band. The pin is placed altogether too high, so that it can only be intended for ornament, — possibly as a pendant to the necklace. Disk earrings with pendants. Hair, two masses above forehead, with horizontal grooves, large mass at back, notched at sides of neck. The headdress consists of a calathus, bound by a wide taenia. The ground color is white; black is found on hair (except at sides of neck), above the eyebrows, and inside of eyes; in radiating lines on earrings, in dots on pin and waved band; red appears in radiating lines on earrings, in dots on pin and waved band, and in two wide streaks above and below close-fitting necklaces. All the colors are carelessly applied, and seem to be meant simply to enliven the figure, without much regard to its anatomy. Height, 12 cm. Clay, yellow.

95. (PLATE XLV. 2.) Head of advanced Argive type, with double stephane. The hair consists of four loops over forehead, single long curl at each side. Ground color, white; traces of red on hair. Height, 5.5 cm. Gray clay.

96. (PLATE XLV. 4.) Similar head, with stephane and boss. Hair, two notched strands over forehead, topped by two masses with horizontal grooves; single strand over shoulder. Simple disk earrings. Traces of white. Height, 5.5 cm. Yellow clay.

97. (PLATE XLV. 8.) Similar head; has stephane with double boss, bound by a taenia. Hair, two notched strands over forehead, and mass at back. Double boss earrings. Traces of two necklaces. Ground color, white; stephane, red; hair, brown. Height, 6 cm. Yellow clay.

98. (PLATE XLV. 9.) Head of advanced Argive type, in high calathus with three bosses and double taenia. Hair, two masses over forehead, wedge-shaped mass at back. One earring is preserved — a simple disk. Traces of one plastic necklace, with pendant and boss, and of two painted necklaces, red. Ground color, white; hair, black; red stripes on calathus, necklace, and neck. Height, 9 cm. Yellow clay.

99. (PLATE XLV. 5.) Similar head. The calathus has three bosses and is bound by double taenia. Hair, two notched strands, topped by two masses over forehead, large mass at back. Plain disk earrings. White slip; taenia, red; hair, black. Height, 7 cm. Clay, yellow.

100. (PLATE XLV. 7.) Head of advanced Argive type with high calathus, fronted by two plumes (cf. p. 13) with a disk at the base. Hair, notched mass over forehead, topped by wide strands, which extend to shoulders. Earrings, large disks. A wide band represents the fold of the chiton. White coat; traces of red on brows, earrings, side hair, and fold. Height, 8.5 cm. Dark yellow clay.

101. (PLATE XLV. 10.) Similar head, plumes broken away. Double taenia. Hair, two notched masses over forehead, topped by large curls, mass at back. Plain round earrings. Traces of necklace. White slip; hair, black; red on taenia. Height, 9.5 cm. Red clay.

102. (PLATE XLV. 1.) Similar head, calathus small, plumes large. Double taenia. Hair, two large curls over forehead, mass at back. Rosette earrings. General traces of white. Height, 7.5 cm. Clay, gray.

103. (PLATE XLV. 6.) Similar head. The plumes are here connected behind the calathus, and the one that is preserved is adorned with a disk. Double taenia. Round earrings. Hair, large curl over each temple, mass at back. Traces of necklace with pendants. Slight traces of white. Height, 11 cm. Clay, dark yellow, shading to red.

104. (PLATE XLV. 12.) Similar head, with large rosette between plumes, which here, also, are connected behind calathus. Double taenia. Rosette earrings. Hair, mass over forehead and at back, topped by two large curls. Slight traces of necklace with pendant. White slip; hair black; red on necklace. Height, 9 cm. Dark yellow clay.

105. (PLATE XLV. 3.) Head of advanced Argive type. The features are very sharp and distinctly archaic, — indeed, it may be a question whether this head ought not to be placed in the "Archaic" class. The eyes are wide and staring, mouth accentuated, in that the region separating the mouth from the cheeks and the chin is here defined by a round hollowing, which at the same time gives hardness. Hair, tight curls over forehead, treated in a conventional manner, like inverted wave pattern, spirals at back, now broken. Simple band about hair, traces of another ornament (perhaps calathus) on crown of head. Simple earrings. Traces of white on face; hair, black. Height, 4 cm. Clay, yellow.



FIG. 41.

106. Two hundred archaic heads, similar to Nos. 93-105, always showing the same tendency to elaborate headdresses.

Here, too, we have placed (see p. 7) —

107. (Fig. 41.) Body of standing female figure, broken at neck. The body is a perfect cylinder; in fact, it seems to have been made on the wheel. The hair was a simple mass at back, red. The ornamentation consists of a broad stripe at waist, and four series of three fine red lines below waist — very similar to Argive-Linear work (see p. 3) in vases. Height, 8.5 cm. Reddish yellow clay.

Cf. for round body, Henzey, *Fig. Ant.* pl. ix. No. 3 (from Cyprus).

VI. FIGURES UNDER ORIENTAL INFLUENCE.

108. (Fig. 42.) Plaque with heraldic lions, broken at right lower corner. The position of the lions is very schematic; each rests one fore paw on a pedestal, and raises the other horizontally, so that the two raised legs meet for their whole length. The tail is curved over the back. The heads turn and look backward. The surface is treated rather superficially, and the muscles are but little developed. No trace of color. Height, 10 cm. Clay, red, in many places burned black.



FIG. 42.

The Lion gate at Mycenae is strikingly similar to this plaque, as well as some Mycenaean gems (for instance, the one published by Tsountas, 'Eφ. 'Αρχ. 1888, p. 175, 2; pl. x. 2). Between the two lions of our plaque probably stood a pedestal or altar (the upper edge can still be made out) similar to those of the gate and the gem. The plaque would seem to belong to the end of the Mycenaean civilization. On the whole subject of heraldic animals, see Curtius, 'Über Wappengebrauch u. Wappenstil im gr. Alterthum,' in his *Gesammelte Abhandlungen*, II. pp. 77-115, pl. i. (cf. with our plaque especially Nos. 8 and 11).

109. (Fig. 43.) Upper part of winged female figure, broken at waist. The face is badly worn, but plainly archaic. Three notched strands of hair fall to each shoulder. The head is surmounted by a stephane. Arms akimbo, — the hands held sickle-shaped objects, badly worn. Hair, red; red bands on stephane, body, and wings. Height, 7 cm. Yellow clay.

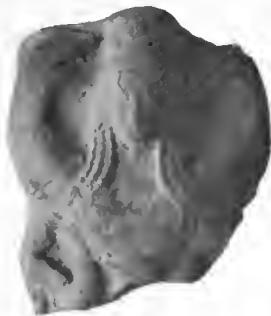


FIG. 43.

This figure is very similar to the Delos statue (*B. C. II. III.* [1879], pp. 393-399, pls. vi. and vii.), and, like it, was undoubtedly a running figure with one knee touching the ground. In terra-cotta, we have similar figures in Martha, *Cat. des Fig. du Mus. d'Athènes*, No. 9, and in Dumont et Chaplain, *Les Céramiques de la Grèce Propre*, II. p. 229, No. 46. These are both explained as gorgons, and that is the interpretation we are inclined to give to our figure. On the subject of running figures, cf. Curtius, 'Die knieenden Figuren d. altgr. Kunst,' in *Gesammelte Abhandlungen*, II. pp. 116 ff. pl. ii., and Gerhardt, 'Über die Flügelgestalten der alten Kunst,' in his *Gesammelte Akad. Abhandlungen*, I. pp. 157 ff. pls. ix.-xii.

110. (Fig. 44.) Fragment of a similar figure, running to right, badly broken. All that appears is the body, with arms akimbo, a small part of right wing, right leg to knee, and left leg to middle of thigh. But the figure is plainly an archaic running figure. Traces of white; some red on chiton. Height, 5.5 cm. Reddish yellow clay.

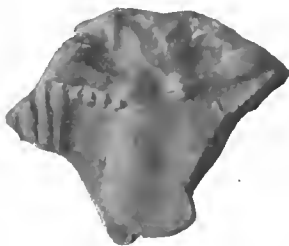


FIG. 44.

Cf. No. 109.

111. (Fig. 45.) Squatting male figure, type of the Egyptian Bes, broken at knees. The figure is that of a dwarf with hands placed on the abdomen, which is abnormally developed. Hair, a mass with horizontal grooves. No trace of color. Height, 6 cm. Red clay.



FIG. 45.

The wide distribution of this class of figures may be seen from Orsi's note on the find at Megara Hyblaea, *Mon. Ant.* I. p. 838, note 1. Cf. the figure there given, pl. vi. 4. The development of this type is traced by Heuzey, 'Sur quelques représentations du dieu grotesque appelé Bès par les Égyptiens,' *Comptes Rendus de l'Académie des Inscriptions et Belles-Lettres*, 1879, p. 140.

112. Six replicas of No. 111, all more or less broken. Same clay, some traces of white coat.

113. Similar figure of smaller size, feet broken away. No trace of color. Height, 5 cm. Dark yellow clay.

114. (PLATE XLVIII. 16.) Fragment of large sphinx, broken at middle of body. The figure is very rude, consisting of no more than a head and neck (in full face), set upon a winged body (whether of a lion or of some other animal it is impossible to determine). The technique is most interesting, for all the surfaces of the face are plane surfaces, and appear to have been made with a knife or some similar tool; this is true, too, of the wing. Moreover, there are no traces of paint on the head or on the wing, whereas they are plentiful on the other parts of the figure. It appears, then, that the figure was finished and painted, and at some later time the surfaces which show the knife marks were formed by cutting away the original contours. The paint, which appears on legs and body, is red. Height, 11 cm. Yellow clay.

An interesting head for comparison is published by Tsountas, *Ἐφ. Ἀρχ.* 1892, p. 13, pl. iv. 4 and 4^a; cf. also the poros heads from the Aeropolis (*Rev. Arch.* XVII. [1891], pp. 304 ff. pl. x.), which, some have held, were made by a workman during the noonday rest, exactly as our figure may have been remodeled.

115. (Fig. 46.) Small sphinx, head missing. The head was apparently feminine, for two locks of hair appear in front of each shoulder. No traces of color. Height, 4.5 cm. Clay, light yellow.

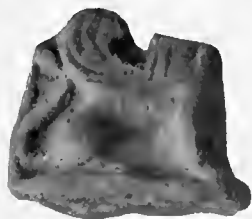


FIG. 46.

116. Fragment of similar sphinx, only front leg, body, and beginning of wing preserved. Traces of white. Height, 4.5 cm. Clay, brown.

117. (Fig. 47.) Small figure on a horse, galloping to left — plaque, stamped on both sides. Rude modeling, but with some attempt at representing muscles of horse by means of grooves.



FIG. 47.

Surface, green enamel. Height, 6.5 cm. Light, sandy material.

This figure is stamped as Egyptian by its enamel. Moreover, Professor Petrie, in his *Naukratis* (p. 14), speaks of "figures of light, friable, sandy ware" — a description which applies exactly to our plaque; and Professor Ernest Gardner informs us that some of these figures were exactly similar to ours. There can be no doubt, then, that we have here an imported article, as is also the case with a small fragment of similar material and glaze — the lower portion of a squatting figure, very much like the type of the Egyptian Bes, Nos. 111-113.

VII. EARLY ARCHAIC.

GROUP A: HAND-MADE FIGURES.

118. (Fig. 48.) Standing male figure, both legs, left arm, and right forearm missing. The figure presents many analogies to primitive Argive figures — the eyes are round lumps, the nose is almost a beak, and the hair consists of four strands falling to the shoulders behind and a wavy curl on top of the head. Yet the mouth and chin are plainly indicated, and there is some attempt at modeling in the body, which produces something the effect of the early Apollo figures. The body is covered with a thick white slip, with applied red on hair, red lines at breast and waist, and red hatchings on legs (meant to represent pattern on chiton?). Height, 11 cm. Clay, red.



FIG. 48.

119. Fragment of seated male figure, broken at hips. The upper part is a mere wedge, to which was attached a face in front, and a mass of hair behind. The *aîdoia* are roughly represented, but far too high. Slight traces of dark brown on left arm, back of head and lower abdomen. Height, 9 cm. Clay, straw.

120. (Fig. 49.) Standing female figure, rudely modeled by hand, but showing an attempt to distinguish the features of the face. The

nose, now broken, was distinguished from the chin; the eyes are incised circles; the hair is a series of notched strands falling to shoulders. The arms are raised to the breasts, and three grooves at the end of each mark the fingers. General traces of white. Height, 8 cm. Light yellow clay.



FIG. 49.



FIG. 50.

121. Standing female figure with remarkably long neck, broken at waist, arms missing. Face very rude, nose very much like a beak, but distinguished from chin, mouth not indicated. The breasts are rudely applied lumps. Eyes, two incised circles. Hair consisted of notched mass at top and strands down the back (now broken off). White color is preserved in circles of eyes. Height, 10.5 cm. Clay, reddish yellow.

122. (Fig. 50.) Standing female figure with nose and mouth carefully distinguished. Eyes, however, are lumps — a reminiscence of the earlier types. Hair, nine notched strands, spreading over shoulders. A slight groove from shoulder to shoulder marks the fold of the chiton. The forearms (now broken off) were extended forward.

Three grooves extend from waist to bottom of chiton on each side, doubtless to represent folds. The ground color is black, covered with yellow dots, even on the parts of the neck above fold of chiton; between the grooves, on the lower part of the figure, are hatchings of light yellow. Height, 11.5 cm. Clay, grayish yellow.

123. (Fig. 51.) Rudely made figure with round body; head, right arm, and left forearm missing. Traces of white. Height, 8.5 cm. Red clay.

This figure stands in the same relation to the two preceding figures that the statue of Cheramyas (cf. Collignon, *Hist. de la Sculpture Grecque*, I. p. 163, fig. 73) does to the Nicandra statue (*ibid.* p. 120, fig. 59). It is an attempt to vary the monotony of the square, board-shaped body by another form, which, however, is equally summary and untrue to nature.

124. (Fig. 52.) Rude round figure of a pregnant woman, head, arms, and feet broken away. The feet were attached to two stumps inserted in the lower part of the figure. The edge of the chiton below the neck is carefully indicated by a deep cutting. White slip. Height, 9.5 cm. Yellow clay.



FIG. 52.



FIG. 51.

Representations of pregnant women are not uncommon in all periods of Greek terra-cottas; cf. Schliemann, *Bericht über die Ausgrabungen in Troia im Jahre 1890*, pl. i. 3; Dörpfeld, *Troia, 1893*, p. 101; Schöne, *Gr. Reliefs*, p. 67, No. 142, pl. xxxvi. (= *Bull.* 1868, p. 54, No. 20); Stephani, *Compte Rendu*, 1865, pp. 193, 194, pl. vi. 6; *Ant. du Bosphore Cimmérien*, II. p. 91, pl. lxxix. 7. But all these figures are plainly intended for caricatures, whereas our figure, as a temple gift, can hardly be anything but a thank offering for a successful childbirth. It is appropriately dedicated to Hera as Εἰλεθρία. (Cf. Hesych, s. v. Εἰλεθρία. Ἡρα ἐν Ἀργεῖ, and on the whole subject, Roseher, *Lexicon der Mythologie*, I² pp. 2087 ff.

125. Forty-four fragments of figures similar to Nos. 118–122, mostly bodies of the *σaris* type, roughly made by hand. A few show traces of applied plastic ornamentation. The painted ornamentation is simple; it consists principally of lines and dots, usually in red and black, although there are a few cases of applied white (to mark the girdle), and one figure has two purple bands falling from the girdle in front. The only pattern is found on the right side of one figure, where we may suppose the fold of the Doric chiton to be:—



- 126.** (Fig. 53.) Torso of female figure of coarse clay, round-bodied type. On the right shoulder is an elaborate fibula of the "clover-leaf" type, and the left shoulder shows traces of a similar fibula. At the back are traces of strands of hair, and also of an applied band which was stretched from shoulder to shoulder. The ground color is red, covered by a black coat, with applied yellow lines at waist and neck, and yellow dots on fibula. Height, 6 cm. Clay, yellow.



FIG. 53.

127. Similar torso, forearms (which were extended) broken off. Traces of four strands of hair at back, and of one strand in front of each shoulder. Fold of chiton represented plastically and decorated with "laufender Hund" pattern in light brown. The entire body is covered with a light brown coat, to which is applied dark brown on bust and arms. Dark brown stripe at waist. Height, 5.5 cm. Yellow clay.

128. Third torso of similar style, arms broken. Fold of chiton moulded in the clay, both at front and back. Traces of long necklace from shoulder to shoulder behind. Hair was six notched strands. Fragment of large fibula on left shoulder. Ground color red, changing to black (apparently from burning). Applied white on neck and fibula; white line at waist. Height, 5 cm. Dark yellow clay.

129. Fragment of heavy, seated figure of coarse clay (similar to the clay of Nos. 126-128), broken at neck and below knees. The woman leans forward and rests her elbows on her knees. The forearms are broken off. Color, black, with red lines at upper edge of chiton and at waist. Traces of large fibula at left shoulder. Height, 8.5 cm. Yellow clay.

Here, too, we may place, as a transitional type —

130. (PLATE XLVII. 3.) Bust and head of rudely made figure of archaic style, with a modeled head. This figure presents striking analogies to the advanced Argive figures; it has a low stephane, six large curls, large earrings, and a close-fitting necklace. Yet it is a real archaic figure; the body was of the same type as Nos. 126-129. Paint applied directly: pupils of eyes, hair, and body, black; brows, brown. Height, 6.5 cm. Yellow clay.

131. Fragments of four replicas of No. 130, with varying amounts of plastic ornament. Three have necklaces, the fourth is broken close to the neck. One has marks of a long necklace from shoulder to shoulder at the back. Two have applied earrings, while of the others, one has the earrings represented by circles sunk in the clay, the other has none at all. The hair consists in three cases of curls; in the other it is a mass. All show marks of having had a stephane. The system of color is the same in all — body, solid color, in one case black, shading to red; in the others, black; necklace, a row of dots; pupils of eyes, brows, and hair, same color as the body — in one case red, in the others, black. One figure has a black dot in the centre of each earring. Height, 3.5 cm. to 6.5 cm. Clay, yellow, except one figure, which is of gray clay.

GROUP B: MOULD-MADE FIGURES.

- 132.** (Fig. 54.) Fragment of standing female figure, broken at neck and waist, arms missing. The modeling is careless. The figure is interesting only because it has at the shoulders round pins similar to those of the early and advanced Argive styles (cf. p. 8). General traces of white. Height, 4 cm. Clay, red.

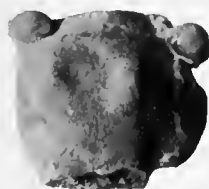


FIG. 54.

133. Fragment of similar figure, without pins. The lower body is no more than a squared lump of clay; the arms are stumps. Fold of chiton represented by a slight groove.

Traces of white. Height, 7.5 cm. Reddish yellow clay.

134. (Fig. 55.) Moulded female figure, broken at neck and above knees. She wears a sleeveless chiton — the upper edge plainly marked by a depres-



FIG. 55.

sion — and necklace with pendant. At each side of neck, one or two curls of a long lock of hair.

The arms fall close to the sides. The relief is very flat, but there is an attempt to represent the breasts. No trace of color. Height, 7.5 cm. Clay, dark red.



FIG. 56.



FIG. 57.

135. (Fig. 56.) Badly worn figure of similar make, no ornamentation. At height of shoulders, two supports were fixed to the back to hold the figure upright (cf. the Argive seated figures). Traces of white. Height, 8.5 cm. Yellow clay.

136. Three fragments of similar figures, all showing remains of supports at level of shoulders. They all show traces of white coat. Heights, 4.5 cm. to 8 cm. Yellow clay.

137. (Fig. 57.) Lower part of large moulded figure, in very high relief (broken at waist). The chiton hangs in a long straight fold between the legs (cf. *Musées d'Athènes*, pl. v.). Arms are pressed close to sides. Color, bright red; arms, pink. Height, 10 cm. Reddish yellow clay.

138. (Fig. 58.) Similar fragment in lower relief, with line ornamentation in purple (simple vertical lines, joined by horizontal and criss-cross lines; at sides, rude horizontal lines only). Height, 6 cm. Clay, reddish yellow.

139. Fragments of three similar figures in low relief, arms always at sides. In two cases, the toes are modeled rather carefully.

140. (Fig. 59.) Moulded figure, broken at neck. Hands still at sides.

From the waist down, the figure is a mere case, in which all the forms disappear, but there is an attempt at representing the feet. Above the waist, the modeling is summary, but fairly accurate. The breasts are clearly brought out, as are also the lower edge of the chiton and the indentation of the girdle (cf. *Musées d'Athènes*, pl. x.). The figure stands on a narrow plinth, which was included in the mould. White slip, with red bands around lower part of chiton. Height, 7 cm. Clay, gray.

141. Exact replica of No. 140, similarly broken, decorated with red bands. Height, 7 cm. Clay, gray.

142. Very similar figure, but not replica. The proportions are slightly smaller than those of No. 140 and No. 141; the figure may have been made from a mould which was itself made from No. 140 or No.

141 and shrank in baking.¹ It shows only traces of white. Height, 7 cm. Red clay.

143. (Fig. 60.) Fragment of similar figure, broken at waist. The hair is represented by notches and falls to shoulders. The ear is too high, as is usual in archaic work. The edges of the chiton at neck and waist are distinctly marked. Traces of white, of red on chiton. Height, 4.5 cm. Red clay.



FIG. 61.

144. (Fig. 61.) Fragment from the same mould as No. 143, minus face and broken at knees. This figure shows not only the lower edge of the fold of the chiton, but also the indentation of the girdle. Arms held close to sides. Slight traces of red. Height, 7.5 cm. Red clay.

145. Upper part of similar figure in high calathus (broken at waist). Fold of chiton and indentation of girdle well marked. Color, white; traces of red on calathus. Height, 5 cm. Clay, red.

146. Small fragment of similar figure, broken at waist and below knees. Behind each hand (arms still hang close to sides) a small hole, possibly for suspending the figure. Traces of white. Height, 4.5 cm. Red clay.

147. (Fig. 62.) Similar figure, showing wide border all around, where the clay ran over the

¹ Cf. Martha, *Cat. des Fig. du Mus. d'Athènes*, p. xxiii, on the subject of "surmoulages."



FIG. 58.



FIG. 60.



FIG. 62.

edges of the mould. Arms hang close to sides. Edges of chiton marked by grooves at neck and waist, also at sides. The hair is represented by grooves, worked after the figure left the mould. Slight traces of red. Height, 8.5 cm. Dark yellow clay.

148. (PLATE XLVI. 5.) Figure from the same mould, with stephane added. Traces of white on face, of red on chiton. Height, 8.5 cm. Yellow clay.

149. Fragment from the same mould as Nos. 147 and 148, broken at neck and knees.

150. (PLATE XLVI. 14.) Bust of large standing figure broken at waist. High round stephane. The hair is carefully represented by curls in low relief over forehead, and three long curls in front of each shoulder. The eyes are remarkably long and triangular. Traces of white, of red on left side. Height, 10 cm. Gray clay.

151. (Fig. 63.) Somewhat similar fragment, broken at waist, face badly broken. Edges of chiton very plainly marked, also edge of girdle. Hair, large mass at back. Ears, remarkably large. No traces of color. Height, 10 cm. Red clay.



FIG. 63.

152. Fragment of similar figure, broken at waist and neck. General traces of white. Height, 7 cm. Red clay.

153. (PLATE XLVI. 1.) Rudely modeled figure, with arms bent at elbows, hands touching shoulders. No attempt at representing details. Traces of white. Height, 7 cm. Yellow clay.

154. (Fig. 64.) Fragment of figure with arms similarly bent (broken at neck and above knees). Very careless modeling. Traces of white. Two red lines at waist, one at neck.



FIG. 64.

Height, 7 cm. Greenish yellow clay.

155. (PLATE XLVI. 6.) Standing figure in stephane, with hands raised to breast. All the lines are remarkably deep; they seem to have been made with a pointed instrument. Hair treated in notches. Two grooves mark the lower border of chiton. No trace of color. Height, 8 cm. Clay, dark red, shading to black.

156. Two fragments of very similar figures, with hands raised to breasts (both broken at neck). One has white slip, with red horizontal lines, one at upper edge of chiton, three at waist, two at lower edge of chiton.

157. (PLATE XLVI. 2.) Somewhat more advanced archaic figure, showing an attempt to represent the folds of the chiton. The figure wears the stephane, and the arms are represented as bent at the elbow, although the forearms are mere stumps. Traces of white coat. Height, 8.5 cm. Red clay.

158. Fourteen fragments of similar figures, mostly lower parts with folds in low relief. One is an exact replica of No. 157.

159. Figure very similar to No. 157 — folds of chiton fairly well given (broken at neck). The arms hang slightly forward, and are entirely given in the mould. Traces of white. Height, 6 cm. Clay, reddish yellow.

160. Fragment of left side of archaic figure — forearm and hand grasping edge of chiton preserved — with fairly careful reproduction of folds. This figure is not flat at back, but hollow, with thin walls, corresponding to the later technique. No traces of color. Height, 8 cm. Red clay.

161. (Fig. 65.) Lower part of archaic figure, showing still greater development of folds of chiton. Here, not only the vertical folds which fall from the arm are brought out, but the folds between the legs are also fairly well reproduced. The modeling of these folds is softer than in most of the other figures of this class, giving an impression of greater freedom. This may partly be due to the fact that this was perhaps made



FIG. 65.

when the mould itself was somewhat worn, and the lines, therefore, not so sharp. No traces of color. Height, 8 cm. Light yellow clay.

162. Two fragments of similarly draped figures. One of them is painted a bright red; the other shows a very plain thumb-mark at the back.

163. (PLATE XLVI. 3.) Figure of the "Spes" type, broken at neck and at knees. The himation falls from right shoulder and passes under right arm. The chiton was doubtless indicated in color. Right hand raised to waist, and pierced by a hole for an attribute (perhaps a flower?). Left hand holds edge of himation. The folds are very carefully indicated. Himation, red — color applied directly to clay. Height, 8.5 cm. Yellow clay.

Cf. Winter, 'Die Terrakotten von der Akropolis,' *Arch. Anz.* 1893, pp. 140 ff., esp. figs. 5, 11, 15; Lechat, 'Terres Cuites de Corcyre,' *B. C. II.* XV. (1891), pp. 1-112, esp. p. 79, No. 74, pl. viii. 2 (the specimen there mentioned had a hole in the hand, exactly as No. 163 has); Heuzey, *Fig. Ant.* pl. xl. 2 (from Cyrenaica); Martha, *Cat. des Fig. du Mus. d'Athènes*, No. 733 (provenance unknown, but probably Greek). The best short discussion of the "Spes" figures is that of Orsi, in his publication of the Megara Hyblaea terra-cottas; see *Mon. Ant.* I. pp. 924 ff.

164. (PLATE XLVI. 10.) Fragment of figure similar to No. 163 — broken at neck and waist. Same arrangement of himation, same careful adjustment of folds. Right hand raised to waist, left doubtless grasped edge of garment. Slight traces of white. Height, 5 cm. Light yellow clay.

165. Fragment of archaic figure, broken above waist and below knees. The folds are hastily indicated. The left hand hangs somewhat forward and holds an apple. At the back is a very plain thumb-mark. Traces of white. Height, 6.5 cm. Dark red clay.

166. (PLATE XLVI. 9.) Aphrodite of archaic type, broken at neck and knees. Folds of chiton barely indicated. Both hands are raised, the right, carrying a dove, to breast; the left, with flower, below it. Traces of white. Height, 5.5 cm. Clay, reddish yellow and very fine.

167. Fragment of similar figure, only left hand with dove and right hand side of drapery preserved. Traces of white. Height, 4.5 cm. Fine yellow clay.

168. (Fig. 66.) Similar Aphrodite, broken at neck and above knees. Right hand, raised to breast, carries dove; left grasps edge of sleeve of himation. Traces of white. Height, 7 cm. Dark red clay.



FIG. 66.

169. Similar figure, badly broken. Right holds dove, left raised edge of himation. The folds of the himation are carefully given. On the shoulders, traces of three locks of hair. Traces of white. Height, 7 cm. Clay, reddish yellow.

170. Fragment of similar figure, broken at neck and waist. Right hand holds dove. In front of shoulders, four notched strands form the hair. Traces of white. Height, 6 cm. Reddish yellow clay.

171. Second fragment, broken at neck and just below breasts. Right holds dove. Traces of white. Height, 2.5 cm. Fine yellow clay.

Cf. on all these figures, Nos. 166-171, the marble statue in Lyons (*Gaz. Arch.* 1876, p. 133, pl. xxxi.); also the terra-cottas, Heuzey, *Fig. Ant.* pl. xii. 5; Orsi, 'Megara Hyblaea,' *Mon. Ant.* I. p. 925, pl. vii. 11; Michaelis, *Arch. Zeit.* 1864, p. 137, pl. clxxxii. 1; Martha, *Cat. des Fig. du Mus. d'Athènes*, No. 433.

172. (PLATE XLVI. 4.) Figure of usual archaic type, broken at neck and at knees. The figure wears the chiton, with a thick fold between the legs, and over it another garment (*χρωρίσκος*?) reaching to the knees (cf. the statue, *Musées d'Athènes*, pl. v.). Both hands are raised in front of body, the left below the right, and each holds a fruit. Traces of white. Height, 7.5 cm. Clay, light yellow and very fine.

Cf. p. 15; Heuzey, *Fig. Ant.* pl. xl. 2; Martha, *Cat. des Fig. du Mus. d'Athènes*, No. 735.

173. Very similar fragment, broken at neck and thighs. Left hand holds a fruit; attribute of right uncertain, but probably also a fruit. Traces of white. Height, 5 cm. Fine yellow clay.

174. Fragment of archaic figure, broken at neck and waist. Left hand at breasts, holds flower. Traces of white. Height, 4 cm. Red clay.

This type is very common; cf. Orsi, 'Megara Hyblaea,' *Mon. Ant.* I. p. 924, pl. vii. 4, pl. viii. 3; *idem*, 'D' Una Città Greca a Terravecchia presso Granmichele in Provincia di Catania,'

ibid. VII. pp. 230 ff., pl. iv.; Clarac, *Musée de Sculpture*, pl. dxxxii. J. 1449 II; Lechat, 'Terres Cuites de Coreyre,' *B. C. H.* XV. (1891), p. 30, No. 7, pl. i. 2; p. 33, No. 14, pl. i. 3.

175. (PLATE XLVI. 8.) Fragment of archaic figure, broken at neck and at waist. She wears the himation falling from right shoulder to left side, and holds in front of her, with her right hand, a wreath. Traces of red on himation. Height, 4.5 cm. Clay, yellow and fine.

Cf. the statue from the Acropolis (Collignon, *Hist. de la Sculpture Grecque*, I. p. 353, fig. 178), which holds a wreath in the right hand and a jar in the left; Orsi, 'D' Una Città Greca a Terravecchia presso Granmichele in Provincia di Catania,' *Mon. Ant.* VII. p. 234, fig. 24; Kekulé, *Ant. Terrakotten*, II. p. 9, fig. 4. It seems not unlikely that this figure has reference to the cult of Hera Antheia.

176. (PLATE XLVI. 7.) Standing figure in chiton (edge at neck and waist, with folds at shoulder and below girdle carefully rendered). Broken at neck and at knees. Right hand holds a small animal (probably a hare); left grasps edge of sleeve of chiton at breast. At back are marks of a thumb and two fingers. Traces of white. Height, 11 cm. Dark red clay.

Cf. the fragment of a poros statnette, Salzmänn, *La Nécropole de Camiros*, pl. ix.; Bernoulli, *Aphrodite*, p. 38.

177. Fragments of two replicas of No. 176, showing the same finger-marks at back. Traces of white. Height, 7.5 cm. and 8.5 cm. respectively. Same clay as No. 176.

178. Twenty fragments of figures similar to Nos. 176 and 177, principally small bits of drapery. Dark red clay.

179. (PLATE XLVI. 11.) Similar archaic figure, broken at neck. She wears chiton with thick fold between legs, and long overgarment like that of No. 172. Both hands hold attributes — right, an animal (stag?), left, bow (cf. p. 15). The break at the left shoulder is interesting, as it shows the method of manufacture by layers — the outer layer is of much finer clay than the inner (filling) layer. Traces of white. Height, 11.5 cm. Fine, light yellow clay.

Cf. Henzey, *Fig. Ant.* pl. xviii. bis. 1 (from Thespieae); Stephani, *Compte Rendu*, 1872, p. 161, pl. iii. 4 (from Kertseh; the figure looks as if it had come from the same mould as No. 179); Lechat, 'Terres Cuites de Coreyre,' *B. C. H.* XV. (1891), p. 48, No. 37, pl. iii. 2; p. 51, No. 40, pl. iii. 1; Berlin Museum, 6831 (Attica) and 6262 (Thespieae); Syraense, large terra-cotta room, case III. (Megara Hyblaea).

180. Four fragments of figures similar to Nos. 166–179, attributes indistinguishable on account of breakage. Traces of white. Clay, fine, varying from yellow to red.

181. Eight fragments of drapery very similar to that of Nos. 166–179, but belonging to hollow figures with thin walls. Traces of white slip; slight traces of red. Heights, 4 cm. to 13 cm. Clay, light yellow to red.

182. Basis of large statue of archaic type, with fragment of the figure from the knees down. The feet are carefully modeled and fairly correct. The bottom is pierced by a round vent. The chiton was red. Height, 7 cm. Height of plinth, 2 cm. Length, 6 cm. Width, 5 cm. Clay, reddish yellow.

183. Six fragments of similar bases, usually with traces of feet only. General traces of white. The dimensions vary from 3 cm. × 3.5 cm. to 5.5 cm. × 7.5 cm. Clay, light red to yellow.



FIG. 67.

184. (Fig. 67.) Very rude seated figure, broken at bottom. The figure varies little from the standing type, except that it is slightly bent at the middle and has two supports behind (cf. No. 135). The arms, which are resting on the knees, are little better than two stumps. On the breast is a pendant. The upper part forms a rude stephane. The figure hardly appears to be modeled at all, yet the surface shows plainly that it was. Traces of white. Height, 5.5 cm. Red clay.

185. Similar figure with supports behind. She wears stephane and necklace with pendant (these made in the mould), and long veil falling to shoulders (a separate piece added after the figure was complete). Traces of white; three red lines on bottom of chiton. Height, 10.5 cm. Reddish yellow clay.

186. Third figure of the same sort with arms bent at elbows, and hands raised to shoulders. Traces of white. Height, 8 cm. Light yellow clay.

- 187.** (Fig. 68*) Seated figure, very summary modeling — only feet, hands, and features brought out at all. The figure rests on a high plinth, which was moulded with it. The hair is a simple band above forehead. She wears a stephane, from which a veil falls over shoulders. Solid, pierced only by air-vent. Traces of white. Height, 8 cm. Dark red clay.



FIG. 68.

- 188.** (PLATE XLVI. 12.) Replica of No. 187, only that plinth was made lower. Traces of white, of red on lower part of chiton. Height, 7 cm. Dark red clay.

- 189.** Similar figure, but not from same mould. Modeling very summary. Traces of white. Height, 6.5 cm. Red clay.

- 190.** Similar figure, but with high polos instead of stephane. Traces of red. Height, 8 cm. Red clay.

- 191.** Similar figure, seated on wide chair (broken at waist). Here, also, the veil covers the hair and falls to shoulders; cf. No. 187). White slip. Height, 6 cm. Red clay.

For all these carelessly modeled figures, cf. Henzey, *Fig. Ant.* pl. xi.; Perrot et Chipiez, *Hist. de l'Art*, III. p. 425, fig. 299; Kekulé, *Ant. Terrakotten*, II. p. 9, fig. 3; Martha, *Cat. des Fig. du Mus. d'Athènes*, Nos. 227 ff.; Panofka, *Terrakotten des K. Mus. zu Berlin*, p. 12, pl. ii.

- 192.** (Fig. 69.) Hastily modeled seated figure, wrapped in flowing chiton, under which, however, the outlines of arms, hands, and breasts are carefully brought out. The figure is pierced by an air-vent. Traces of white. Height, 7.5 cm. Reddish yellow clay.

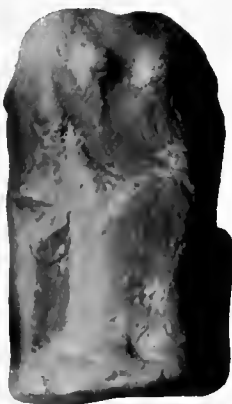


FIG. 69.

Cf. Gerhard, *Ant. Bild.* pp. 338 ff., pl. xev. 1, 2 (Sicily); also in stone, the seated figures, discovered at Branchidae by Newton (*Discoveries at Ialacarnassus*, pp. 530 ff., pls. lxxiv., lxxv.), and the archaic statue in the National Museum at Athens (Kavvadias, No. 6; *Ἐφ. Ἀρχ.* 1874, p. 480, pl. lxxi. Aα and Aβ).

- 193.** Four fragments of similar figures, not, however, from the same mould. Slight traces of white; some red on chairs, feet, and chitons. Clay, yellow and red.

- 194.** Similar figure showing an attempt at reproducing the folds of the chiton where it falls across the breast. Arms still at sides, hands resting on knees. Fragments of two supports at back. White slip with red lines

on arms and breast. Height, 6 cm. Yellow clay.

- 195.** Two similar figures, not from same mould. Traces of white; one figure has red lines (criss-cross pattern) on breast and above knees. Height, 6 cm. and 7.5 cm. Clay, yellow.

- 196.** Lower part of large seated figure on high plinth, with considerable treatment of the folds at sides and between legs. Traces of white. Height, 7.5 cm. Dark red clay.

- 197.** (PLATE XLVI. 16.) Figure similar to No. 192, but with much better treatment of folds across breast and at waist. The outlines of the legs are also well brought out. The hands rest on arms of chair, and both hold round objects (probably apples; cf. Nos. 172, 173, and p. 15). The figure is pierced by an air-vent. Traces of white. Height, 7 cm. Dark red clay.

- 198.** (PLATE XLVI. 13.) Similar figure, with careful, though stylistic representation of folds by deep vertical lines, from breast to feet. Hands at knees; fingers rudely indicated. The figure has an air-vent. Red line at neck. Height, 6.5 cm. Clay, light yellow and very fine.

- 199.** (PLATE XLVI. 15.) Similar figure without indication of folds, but with right hand raised, holding a bird to breast. Left hand rests on left knee. The throne on which she sits is carefully distinguished. Traces of red on chair. Height, 6 cm. Clay, light yellow and very fine.

Cf. Nos. 166–171; Kekulé, *Ant. Terrakotten*, II. p. 10, fig. 10, p. 11, fig. 13; also figures in Case VI., large terra-cotta room, Syracuse.

- 200.** Fragments of five replicas of No. 199, all solid. Traces of white, with red on chair. Fine, light yellow clay.

201. (Fig 70.) Hastily modeled figure of a child, broken at waist. On her right arm she holds a small doll. Traces of white. Height, 5.5 cm. Red clay.



FIG. 70.

202. Thirteen small heads belonging to the type of Nos. 198 and 199. They are flat at back, of pronounced archaic style. The hair is usually a mass falling to shoulders, slightly notched over forehead, with polos or stephane. General traces of white. Heights, 2.5 cm. to 5 cm. Clay, fine, ranging from yellow to red.

203. Three very similar heads, not, however, flat at back. The features are archaic. Hair, mass. One head has the polos. Traces of white, of red on polos. Heights, 3 cm., 3.5 cm., and 4 cm. Clay, light yellow to red.

204. Lower part of crouching male figure with hands (disproportionately large) on knees. The figure corresponds very closely to one from Megara Hyblaea (cf. *Mon. Ant.* I. pl. vi. 5), and was undoubtedly a satyr or silenus. Traces of white. Height, 6 cm. Reddish yellow clay.

205. Lower part of squatting figure, probably a satyr, broken at waist. Hands rest on knees. Traces of white, sporadic bits of red. Height, 4.5 cm. Light yellow clay.

There is a similar figure in Syracuse, large terra-cotta room, Case III., from Megara Hyblaea.

206. Rude seated Pan — hollow figure, which probably served as a vase. Modeling very flat, only face, arms, and syrinx brought out. Slight traces of white. Height, 8.5 cm. Reddish yellow clay.

207. Head of archaic type, hollow, with vase orifice at the top. The hair seems to be held close to the skull by a veil. Traces of white. Height, 7.5 cm. Red clay.

208. (PLATE XLVII. 13.) Very similar head, also with orifice at top, and casque-like hair-covering. Traces of white. Height, 6.5 cm. Red clay.

209. Eight fragments of similar heads, badly broken. General traces of white. Yellow clay, shading to red.

These heads (Nos. 207–209) have the marks of the Rhodian ware as described by Heuzey (*Cat. des Fig. du Mus. du Louvre*, p. 220), “la mâchoire inférieure osseuse et développée à l’excès, ce que nous appelons le *menton galoche* ; de gros yeux triangulaires, dont la paupière supérieure est seule arquée.” They are probably, therefore, imported, although a few may be local imitations. Cf. Heuzey, *loc. cit.* pp. 229, 230 ; Kekulé, *Ant. Terrakotten*, II. p. 12, fig. 16, and p. 18, fig. 34 ; Winter, *Arch. Anz.* 1893, p. 147, No. 28 ; Orsi, ‘Megara Hyblaea,’ *Mon. Ant.* I. p. 805.

210. (PLATE XLVII. 15.) Head of pronounced archaic type — eyes set obliquely to nose, mouth raised at corners. The headdress is very high, a sort of tiara (the *kydaris*?), and from it a veil falls to the shoulders. Traces of white. Height, 7.5 cm. Clay, light yellow.

211. Three very similar heads, all with same headdress and veil. Slight traces of white. Heights, 5.5 cm., 5.5 cm., and 7 cm. Yellow clay.

These heads (Nos. 210 and 211) again resemble very closely a Rhodian type (cf. Heuzey, *Fig. du Mus. du Louvre*, pl. xi. 2), which is found pretty generally distributed in the basin of the Mediterranean — in Greece, in Sicily, in Italy, and even in Phoenicia.¹ Yet they show some divergences, for instance, the eyes are not set quite so obliquely as those of the Rhodian figures, and they are not so narrow ; so that they are probably of local manufacture, imitating Rhodian work, like the Syracusan figures mentioned by Heuzey.²

212. (PLATE XLVII. 14.) Archaic head, with elaborate treatment of the hair. This consists of two rows of curls over the forehead, moulded in the form, then a row of elaborate applied spiral curls, with eight curls at the back (now broken), the whole topped by a double, twisted taenia. The eyes are wide and very long, nose in two planes, mouth straight, ending in a pad of flesh at each corner ; a deep furrow extends from cheek-bone to chin on each side of nose. Traces of white. Height, 5 cm. Yellow clay.

213. (PLATE XLVII. 12.) Large archaic head, very similar to No. 212. Same type of face. The hair here consisted of a row of scallops moulded in the form, with a row of applied curls above and large mass behind. The figure had large earrings, now broken. Traces of white. Height, 8.5 cm. Light yellow clay.

These two heads (Nos. 212 and 213) differ greatly from the Argive type. Their nearest

¹ Cf. Heuzey, *Cat. des Fig. du Mus. du Louvre*, p. 240.

² *Ibid.* p. 227, n. 3.

analogy in the Héraeum finds is the bronze bust, 5, pl. II. 1, 2; and in terra-cotta, the head published by Cesnola, *Coll. of Cypriote Ant.* II, pl. xv. No. 117 (cf. the sculptures, *ibid.* I, pl. xciii. Nos. 622 and 623; pl. xcvii. Nos. 662 and 663). We are inclined, therefore, to regard these two heads as imported.

214. (PLATE XLVII. 4.) Head of archaic style, with very sharp features. The hair is an applied mass at back, marked with notches and bound with a tænia. The ground color is greenish yellow, to which red was applied on eyes, cheeks, and brows. Hair, red, shading to black. Height, 4.5 cm. Yellow clay.

215. Small, very rude bearded masque, slightly chipped at sides. Eyes and mouth marked by wide grooves, beard by coarse vertical lines. No trace of color. Height, 5 cm. Red clay.

216. (PLATE XLVII. 8.) Archaic female masque, original edge all around. The hair is moulded in masses. Hole for suspension above forehead. Traces of white. Height, 5.5 cm. Light yellow clay.

217. Large votive head, broken at right side and at neck. The hair is a row of round bosses, surmounted by stephane with suspension hole. Modeling superficial. Traces of white. Height, 9 cm. Dark red clay.

218. Very similar head, almost replica, broken at neck, left side of face chipped away. Traces of white. Height, 7 cm. Clay, dark red.

219. Right side of large votive head, with treatment of hair in four lines of zigzags. Narrow stephane. Traces of white. Height, 6 cm. Dark yellow clay.

220. Similar fragment, with large round earring. Hair modeled as a mass, topped by stephane. Traces of white. Height, 8.5 cm. Light yellow clay.

221. (PLATE XLVII. 9.) Similar masque with stephane. The hair is treated as short curls. Hole for suspension in front of stephane. Traces of white. Height, 5.5 cm. Red clay.

222. (PLATE XLVII. 6.) Small masque with very high stephane, broken at neck. Hair, a line of notches above forehead. Customary hole for suspension. No trace of color. Height, 4 cm. Light yellow clay.

223. Three replicas of No. 222, same clay.

224. Small bust of hasty workmanship, original edge preserved all around. The hair is a simple mass. Hole for suspension. No trace of color. Height, 8 cm. Greenish yellow clay.

225. (PLATE XLVII. 10.) Archaic masque in high stephane, broken only at upper right hand corner. The hair is treated in two rows of loops. Traces of white. Height, 6.5 cm. Clay, straw.

226. Eight fragments of archaic masques, similar to Nos. 221-225, both with and without stephane. The suspension hole is common. General traces of white. Yellow clay.

VIII. ADVANCED ARCHAIC.



FIG. 71.

227. (Fig. 71.) Upper part of standing figure with high stephane (broken at waist). Hair, a simple roll below stephane. At the shoulders were two projections (now broken off), which doubtless served to suspend the figure. Some traces of white coat. Height, 9.5 cm. Reddish yellow clay.

228. Very similar smaller figure, broken at waist. This figure also has stephane and projections at shoulders. Two strands of hair fall in front of left shoulder, one in front of right. Traces of white. Height, 6 cm. Yellow clay.

229. Lower part of seated figure with hands on knees. The figure is hollow, like the later terra-cottas of free style. The folds of the chiton, however, are still represented in a stiff, archaic fashion. The color is well preserved — white slip, with traces of applied red. Height, 5 cm. Clay, reddish yellow.

230. (PLATE XLVII. 11.) Votive head, hair treated in waves above forehead, and in notches at sides. Stephane, pierced by suspension hole. Traces of white. Height, 5.5 cm. Dark red clay.

231. Three exact replicas of the preceding, same traces of color; same clay.

232. Seven heads similar to No. 230, but not replicas. Same treatment of hair; stephane with hole for suspension. General traces of white. Height, 4 cm. to 5 cm. Clay, light yellow to red.

233. Twenty-three fragments of similar advanced archaic heads, much mutilated, but probably all votive heads. General trace of white. Clay, usually red; one or two specimens are of yellow clay.



FIG. 72.

234. (Fig. 72.) Head of advanced archaic style, solid. Hair treated as a simple mass. Traces of white. Height, 3.5 cm. Light yellow clay.

235. (PLATE XLVII. 1.) Similar head, solid. Hair, mass. Traces of white. Height, 4.5 cm. Clay, light yellow.

236. (PLATE XLVII. 2.) Similar head, solid. Hair, mass, but treated in waves over forehead. Traces of white, of red on hair. Height, 4.5 cm. Dark yellow clay.

237. (PLATE XLVII. 5.) Similar head, solid. High coiffure, treated as a mass. Traces of white. Height, 4 cm. Dark red clay.

238. (Fig. 73.) Head of similar style. Hair, wavy curls over forehead, and at sides of neck; mass at back under veil. Traces of white. Height, 6 cm. Clay, reddish yellow.



FIG. 73.

IX. FREE STYLE.

239. (PLATE XLVII. 7.) Fragment of large votive head, broken at left side. The whole treatment is in large surfaces, free from archaic restraint; the mouth has the natural curve, the outlines of the eye are correctly given, even to the lapping of the upper lid over the under. A ridge down the middle of the face seems to show that the head was made in two pieces. Traces of white. Height, 8.5 cm. Red clay.

This head, in spite of its fragmentary condition, seems to us to represent the great style of the fifth century, and has inherent traces of the influence of some large statue. The peculiar marking of the hair, undercut and thus relieved from the face, and falling on either side in a mass of curls (here boldly sketched, though not elaborately modeled), is closely analogous to the Argive coin in which a copy of the Polycleitan Hera has been identified. It also suggests a comparison with the newly identified marble head in the British Museum (see General Introd. to Sculpture, p. 23). We are thus encouraged to consider this terra-cotta head as immediately related to the great Polycleitan Hera. Cf. Waldstein, 'The Argive Hera of Polycleitus,' J. H. S. XXI. (1901), pp. 30 ff., especially pp. 43, 44, and fig. 2.

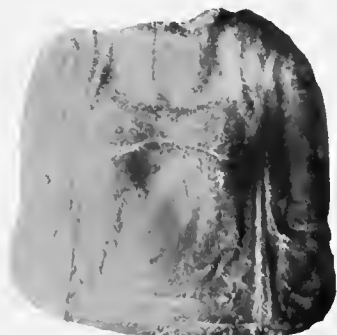


FIG. 74.

240. (Fig. 74.) Votive bust, broken at neck, but with original edge at waist. The folds of the chiton and of the long veil which falls over the shoulders and the arms are all given with perfect freedom and naturalness. The figure is covered with a white coat. Height, 9 cm. Clay, reddish yellow.

X. ANIMALS.

241. (PLATE XLVIII. 7 and Fig. 75.) Group, representing a bull attacked by a lion. The lion grasps the bull around the shoulders and bites him in the neck. The bull is plainly exhausted; his head sinks to one side, and one of his hind legs is curled up under him, while the other is stretched straight out behind, as in the well-known Acropolis group. The execution of the group is fair—the anatomy of the bull's head is quite well given, and the muscles are fairly well brought out. The fore legs of the lion are too long, otherwise he is well modeled; his mane is formed of a number of round disks, close together. Technically, it may be noted that the bull seems to have been made complete (his tail curls over his back), and the lion was then "applied," so to speak, to him. White slip; black lines on forehead of bull and front legs of lion; red

streak at lion's mouth, extending across the bull's neck (probably a representation of blood). Length, 10 cm. Height, 5 cm. Clay, light yellow.

The motive of a bull attacked by one or more lions is one of the oldest, and one of the commonest in Greek art. In Mycenaean times, we find representations of this subject on gems (cf. Tsountas, 'Εφ. 'Αρχ. 1888, p. 177, No. 25, pl. x.; *ibid.* 1889, p. 166, No. 18, pl. x.; Perrot et Chipiez, *Hist. de l'Art*, VI. p. 771, pl. xvi. 21); and on an ivory plaque from Sparta (*B. C. H.* II. [1878], p. 213, pl. xvi. 4). In archaic art it is very common; cf. for example, the frieze of the temple of Assos (Clarae, *Musée de Sculpture*, II. pl. cxvi. B, No. 5); the Lyeian relief (Clarae, *op. cit.* II. pl. cccxiii. No. 189); the relief from Marsala (*Arch. Zeit.* 1872, pp. 133, 134, pl. li.); group from Myra (Fellows, *Discoveries in Lycia*, p. 197); relief from Xanthus (*ibid.* p. 174); frieze from Aezani (Le Bas et Waddington, *Voyage Archéologique en Grèce et en Asie Mineure*, atlas, under 'Asie Mineure,' pl. xiv.); and especially the Acropolis group (*B. C. H.* XIII. [1889], p. 139, and *Rev. Arch.* XVIII. [1891], p. 137, pl. xiv. bis.). The motive is also common in branches other than sculpture in stone; cf. the shield from Amathus published by Cesnola (*Cyprus*, pl. xx.); the tripod from Vulci (Braun, *Annali*, 1842, pp. 62 ff.; *Mon.* III. pl. xliii.); and the oenochoe (Gerhard, *Ans. Vas.* II. p. 134, pls. cxii., cxiii.). In terra-cotta, I know of no examples except two reliefs — one in Berlin (Gerhard, *Ant. Bild.* p. 317, pl. lxxviii. 2), the other in Palermo (Kekulé, *Ant. Terrakotten*, II. p. 82, pl. liv. 2).

Of all these groups, the Acropolis one approaches most nearly to ours. In both, the bull is plainly exhausted and overcome; the hind legs even have the same position in both — that of the "split," and the decoration in red stripes is common to both. In fact, it seems probable that our group was copied from a work of sculpture similar to the Acropolis group, and dates from about the same time, i. e., the first half of the sixth century B. C.

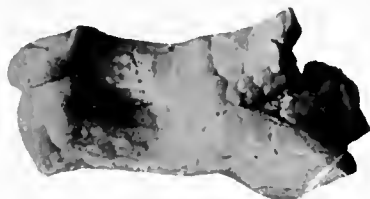


FIG. 75.

242. (PLATE XLVIII. 11.) Fragment of a centaur, top of head, legs, and horse's body missing. The break at buttocks shows plainly that the figure was a centaur. He has a long, pointed beard, in which a triangular hole marks the mouth. The left hand is pressed against the left hip; the right was apparently raised. White slip. Height, 6.5 cm. Light yellow clay.

Cf. the figure from Limniti, *Arch. Anz.* 1889, p. 88, E.

243. (PLATE XLVIII. 6.) Horse carrying a woman of primitive type. She faces the horse's right side, and no saddle is represented. Eyes and breasts of woman and eyes of horse are applied disks. White slip, with applied red lines on neck, waist, and knees of woman. Height, 6.5 cm. Red clay.

Reinach, in a study of female figures associated with horses (*La Nécropole de Myrina*, pp. 401 ff.), comes to the conclusion that "l'on peut hésiter entre Éos, Séléné et Aphrodite, mais sans exclure la possibilité d'une autre hypothèse." At Argos, a figure like No. 243 is much more likely to be associated with Hera *ἑπείρος* (cf. Paus. V. 15. 5), but this cannot be regarded as anything more than a conjecture.

244. (PLATE XLVIII. 2.) Mounted warrior of the ordinary primitive type. Face, a beak, with disks for eyes; high helmet. He has no shield, but extends his arms to the sides of the horse's head. Traces of white. Height, 7.5 cm. Red clay.

245. (PLATE XLVIII. 4.) Similar warrior, with large shield on left arm. Only neck and shoulders of horse are preserved. Traces of white. Height, 9 cm. Red clay.

246. (PLATE XLVIII. 3.) Similar warrior, no part of horse preserved. The warrior wears a peculiar helmet, the effect of which resembles that of the American "cocked hat." White slip. Height, 7 cm. Light yellow clay.

247. Forty-five fragments of similar figures, all more or less broken. They usually show traces of a white slip. Clay, usually red.

For this very common type, cf. Martha, *Cat. des Fig. du Mus. d'Athènes*, Nos. 602, 603 (from Tegea); Jamot, *B. C. H.* XIV. (1890), pp. 217 ff. (Tanagra figures); Cesnola, *Coll. of Cypriote Antiquities*, III! pl. lxix.

248. (PLATE XLVIII. 8.) Horse with pannier on each side, bound by straps which pass around neck, under belly, and under tail. Ornamented with black lines across breast, black dots on straps. Length, 7.5 cm. Yellow clay.

Cf. the horse with a basket on his back found at the sanctuary of the Kabiri (Wolters, *Ath. Mitt.* XV. [1890], p. 358).

249. (PLATE XLVIII. 10.) Horse's head of good style. The forelock is carefully brought out, and even the wrinkles over the eyes. Traces of white. Height, 5 cm. Clay, light yellow and fine.

250. (PLATE XLVIII. 12.) Small animal (dog?), legs broken. The eyes are holes bordered by raised rims. Traces of white. Height, 3.5 cm. Yellow clay.

251. (PLATE XLVIII. 1.) Bull's head of good style, complete except right horn. Traces of white. Height, 6.5 cm. Clay, red.

252. (PLATE XLVIII. 5.) Similar head, horns broken. Traces of white. Height, 6.5 cm. Clay, red.

253. (PLATE XLVIII. 17.) Bull's head in profile, good workmanship. Traces of white. Height, 5.5 cm. Dark yellow clay.

Cf. the large finds of similar bulls at the sanctuary of the Kabiri (Wolters, *Ath. Mitt.* XV. [1890], pp. 355 ff.).

254. (PLATE XLVIII. 24.) Serpent's head of good style. Body, black; head, green, bordered by maroon line; eyes and nose touched up with black. Length, 5.5 cm. Yellow clay.

255. (PLATE XLVIII. 9.) Small dove with young under her wings. Traces of red. Height, 2.5 cm. Red clay.

256. (PLATE XLVIII. 23.) Cock, practically unbroken. White slip, traces of red on comb and wattles. Height, 7 cm. Yellow clay.

257. (PLATE XLVIII. 14.) Small human-headed bird, with ring for suspension. The face is archaic, with high coiffure, two braids falling over right shoulder and one over left; mass at back. Traces of white with applied red. Height, 5 cm. Dark yellow clay.

Cf. Martha, *Cat. des Fig. du Mus. d'Athènes*, Nos. 241, 242, 964; Kekulé, *Ant. Terrakotten*, II. p. 26, figs. 63 and 64; Henzey, *Fig. du Mus. du Louvre*, pl. xiii. 6. We agree with Henzey (*loc. cit.* p. 11), in regarding this figure as a Siren or Harpy, borrowed by the Greeks from the Egyptian representation of the soul.

258. (Fig. 76.) Cock, broken at neck. The background is cut away all around, and the plaque is pierced by two holes for suspending it or for fixing it upon a background. Traces of white. Height, 5.5 cm. Dark red clay.

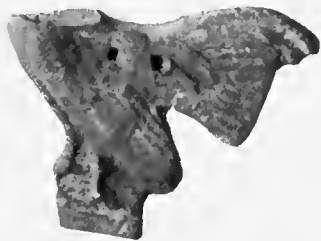


FIG. 76.

This type is very common. Cf. Martha, *Cat. des Fig. du Mus. d'Athènes*, Nos. 11-13; Dumont et Chaplain, *Céramiques de la Grèce Propre*, II. p. 229, No. 45; Girard, 'Sur Quelques Néropoles de la Grèce du Nord,' *B. C. II.* III. (1879), p. 217, No. 2; Stephani, *Compte Rendu*, 1868, p. 71, pl. iii. 14; Rayet, *Cat. de la Coll. d'Ant. Gr. de M. O.* Rayet, p. 8, No. 30; there are similar specimens in Syracuse.

259. (PLATE XLVIII. 19.) Dog's head, broken at neck, which is decorated with a twisted collar. The modeling is very careless. Traces of white. Height, 6 cm. Clay, red.

260. (PLATE XLVIII. 18.) Rude ram's head, broken at neck. Traces of red. Height, 5 cm. Light yellow clay.

Cf. Schliemann, *Tiryns*, p. 106, fig. 22.

261. Bear's head, broken at neck, very rude eye and mouth marked by long grooves. Traces of red. Height, 5 cm. Gray clay.

262. (PLATE XLVIII. 15.) Head of griffin, broken at neck. The mouth is wide open. The hair is represented by notches above the forehead and at sides of neck. Traces of white. Height, 6 cm. Red clay.

263. (PLATE XLVIII. 20.) Squatting pig, fore legs (which were extended horizontally) broken. No trace of color. Height, 6 cm. Dark red clay.

264. (PLATE XLVIII. 21.) Sitting monkey, arms broken. No trace of color. Height, 9.5 cm. Light yellow clay.

Cf. Martha, *Cat. des Fig. du Mus. d'Athènes*, No. 100; Fröhner, *Collection Barre*, No. 464. It is probable, from the position of the arms and from a remnant of some object on the left shoulder, that our figure held a spear in the right hand, and carried a shield on the left arm—the attitude of a similar figure from Megara Hyblaea in Syracuse (vase room, central case).

265. (PLATE XLVIII. 22.) Tortoise, head missing. Traces of white. Length, 4 cm. Dark red clay.

266. Six hundred and forty-six fragments of animals, similar to the types here described, all more or less mutilated.

XI. VARIOUS OBJECTS.

267. (Fig. 77.) Fragment of dish with cakes. Length, 6 cm. Clay, reddish yellow.

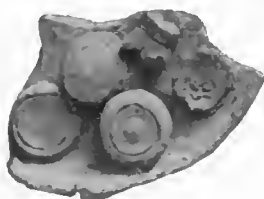


FIG. 77.

Undoubtedly an offering "by substitution" to the gods; cf. Pottier and Reinach, *La Nécropole de Myrina*, pp. 246 ff.

268. (Fig. 78.) Table, legs broken close to top. The edges are grooved to form an ornamental pattern. On the table, thin strips of clay, applied irregularly, seem to us to represent food (cf. No. 267). Traces of white and some red. Length, 7.5 cm. Yellow clay.



FIG. 78.

269. (Fig. 79.) Top of a table, legs broken. At each corner is a boss, meant, possibly, to represent a bronze nail-head. Top painted with cross-lines and round dots in maroon, shading to black. Length, 5.5 cm. Width, 5 cm. Yellow clay.

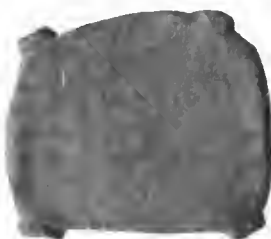


FIG. 79.

270. Forty-eight fragments of similar tables, mostly small, flat pieces of tops, with incised patterns of parallel and criss-cross lines. They are usually painted solid red, but a few have the regular white coat, with applied red and black lines. The largest fragment measures 7.5 cm. \times 6 cm. Yellow clay.

271. (Fig. 80.) Fragment of bed, legs broken. The sides are covered with incised patterns; on one side, in the centre, meander, and at sides, criss-cross.

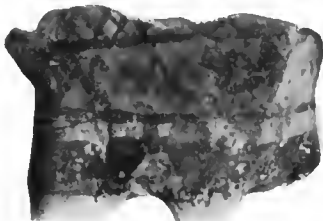


FIG. 81.

No traces of color. Height, 3.5 cm. Length, 4.25 cm. Width, 2.75 cm. Yellow clay.

272. (Fig. 81.) Armchair, legs and back broken. The arm has a hole at the end (to receive a bronze nail-head?). Traces of a seated figure in the chair. Decoration in straight and zigzag lines, brown to black. Height, 5 cm. Length, 6 cm. Width, 4.5 cm. Light yellow clay.



FIG. 80.

Cf. Schliemann, *Tiryns*, p. 148, pl. xxiii. fig. c.; Furtwängler, *Samm. Sabouroff*, II. pl. cxliv. 3; *Mon. Ant.* VI. p. 107, pl. iv. 9; *ibid.* p. 129, pl. v. 10.

273. Similar armchair, containing fragment of a female figure of the seated, flat-bodied type, legs and back broken. One arm has a round boss at the end. Decoration in brown criss-cross lines on back of chair. The body of the woman was painted black. Height, 7 cm. Length, 6.75 cm. Width, 5 cm. Dark yellow clay.

Cf. No. 272.



FIG. 82.

274. (Fig. 82.) Leg from a similar chair or from a table, with ornamental nail-head, decorated by eight radiating grooves, with a boss at the centre. The end is painted red. Height, 4.5 em. Clay, yellow.

275. Fifty-two fragments of similar legs, all decorated on the ends, usually with a boss or a rosette or radiating lines. They usually show traces of white or red color. Length, 2 em. to 8 em. Clay, yellow or red.

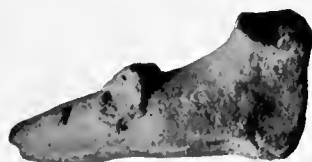


FIG. 83.

276. (Fig. 83.) Foot with sandal. The sole is a separate piece, and there is an elaborate bow on the instep. No trace of color. Length, 6 cm. Yellow clay.



FIG. 84.

277. (Fig. 84.) Terra-cotta mould. The objects represented come out more plainly in the impression (which is here given) than in the mould itself; but they are difficult to determine with certainty. Two are plainly shells, one seems to be a pear, another a fig, another a nut. Length, 4 em. Width, 2.6 em. Clay, yellow.

The objects represented in this mould make it appear probable that the mould was used for making offerings of food, "by substitution," to the goddess. Cf. No. 267, and the reference there given.



FIG. 85.

278. (Fig. 85.) Small set of three large-handled vases, set into one another. They served no practical purpose, but were simply a votive offering. Traces of white. Height, 6.25 em. Dark red clay.

Orsi, in his article 'Megara Hyblaea' (*Mon. Ant. I.* p. 874), quotes a case of two stamni set into each other in a grave (No. exciii. of his enumeration).

279. (Fig. 86.) Fragment of a bake-shop scene. All that is preserved is a portion of the long table, with two boards upon it, each ear-

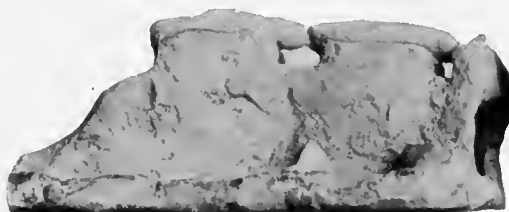


FIG. 86.

rying a cake of dough. On the base, beside this table, traces of three figures of primitive type. Traces of black. Height, 4.5 em. Length, 10 em. Width, 7.5 em. Yellow clay.

Cf. the bake-shop scenes in Athens, Martha, *Cat. des Fig. du Mus. d'Athènes*, Nos. 39, 40, published by Kouroumiotes, 'Εφ. 'Αρχ. 1896, pp. 201 ff., pl. xi.



FIG. 87.

280. (Fig. 87.) Small tree (?) with seven projections about main stalk (to represent branches?). White coat, ornamentation in red and black lines. Height, 7 em. Clay, reddish yellow.

281. (Fig. 88.) Two flower-like disks, fastened together by the stems. One is painted solid red, the other has cross-lines in red, shading to black; stems, dark red. Length, 5 em. Yellow clay.



FIG. 88.

282. Twenty-two fragments of similar disks. They are all painted, usually in maroon and black, sometimes in solid color. Length, 1.5 em. to 5 em. Yellow clay.

283. (Fig. 89.) Four-sided cone, perforated at the top. Ornament, a wide stripe in dark red to black, on each face. Height, 5 em. Red clay.

Cf. p. 15, note 10.



FIG. 89.

284. (Fig. 90.) Similar perforated cone; on each side, six horizontal lines. Color, light red, shading to dark red, brown, and black. Height, 7 cm. Yellow clay.



FIG. 90.

285. Thirty-one similar cones. Decoration is rare, and is never more than a simple scheme of line ornament. Height, 3.5 cm. to 6.5 cm. Clay, yellow to red.

286. (Fig. 91.) Large spool. On one face, a stamp, consisting of curved lines, radiating from a centre. Slight traces of red. Height, 4 cm. Diameter, 5 cm. Clay, greenish yellow.



FIG. 91.

287. (Fig. 92.) Similar spool. On one face, an animal (cat or dog), stamped in deep lines. Traces of white. Height, 5.5 cm. Diameter, 5.75 cm. Yellow clay.

288. Forty-nine similar spools, with simple designs, usually a single circle or simple rosette; two have a Greek cross. They almost never show traces of color. Heights, 3 cm. to 5 cm. Diameter, 3 cm. to 4.5 cm. Clay, light yellow to red.



FIG. 92.

289. One hundred and seventy-eight plain spools, sometimes rounded at the ends. Almost no traces of color. Heights, 2.25 cm. to 6 cm. Diameters, 2.25 cm. to 6 cm. Clay, light yellow to red.

290. Large pear-shaped weight (probably loom-weight), perforated 4.5 cm. from top. The bottom, which is flattened, is pierced by three holes, apparently unconnected, and another hole, parallel to the axis, enters at the side. On one side, at bottom, is stamped an anthemion. No trace of color. Height, 14.5 cm. Greatest diameter, 7 cm. Dark yellow clay.

291. Twenty fragments of similar large weights, perforated at top, and with one to five holes at bottom, but without decoration. No traces of color. Height, 7.5 cm. to 13 cm. Clay, usually red.

292. Eight whorls of the ordinary type, all plain except one, which has four radiating grooves on one side. No decoration. Diameters, 2.75 cm. to 5 cm. Clay, yellow to red.

Cf. Schliemann, *Tiryns*, pp. 147 ff.; *Mycenae and Tiryns*, p. 77.

293. Three objects in the form of a Greek cross with rounded ends, pierced by a hole at the centre. No color. Lengths, 4.75 cm., 5.5 cm., 6.5 cm. Clay, red.

294. Four small rings with notched edges. They are painted red. Diameters, 2.75 cm. to 4 cm. Red clay.

Cf. Schliemann, *Tiryns*, p. 148, No. 73.

NOTE.

It is to be regretted that these pages were in type before the appearance of Hadaczek's two articles, 'Zur Schmuckkunst des altgriechischen Mittelalters' and 'Die Fibel des Odysseus, Helikes und Kalykes' (*Jahreshefte d. oester. arch. Inst. in Wien*, V. [1902], pp. 207 ff., and *ibid.* VI. [1903], pp. 108 ff.), so that it was impossible to give definite references to the Argive figures which he mentions. We are pleased to note that his conclusions as to the dress of these figures are substantially in agreement with our own, as expressed on pp. 10 ff. and *passim*.



TERRA COTTA FIGURINES. — PRIMITIVE AND TIRYNTHIAN ARGIVE TYPE: STANDING FIGURES



TERRA COTTA FIGURINES. — TIRYNTIAN ARGIVE TYPE: SEATED FIGURES



1(80)



3(86)



2(79)



4(90)

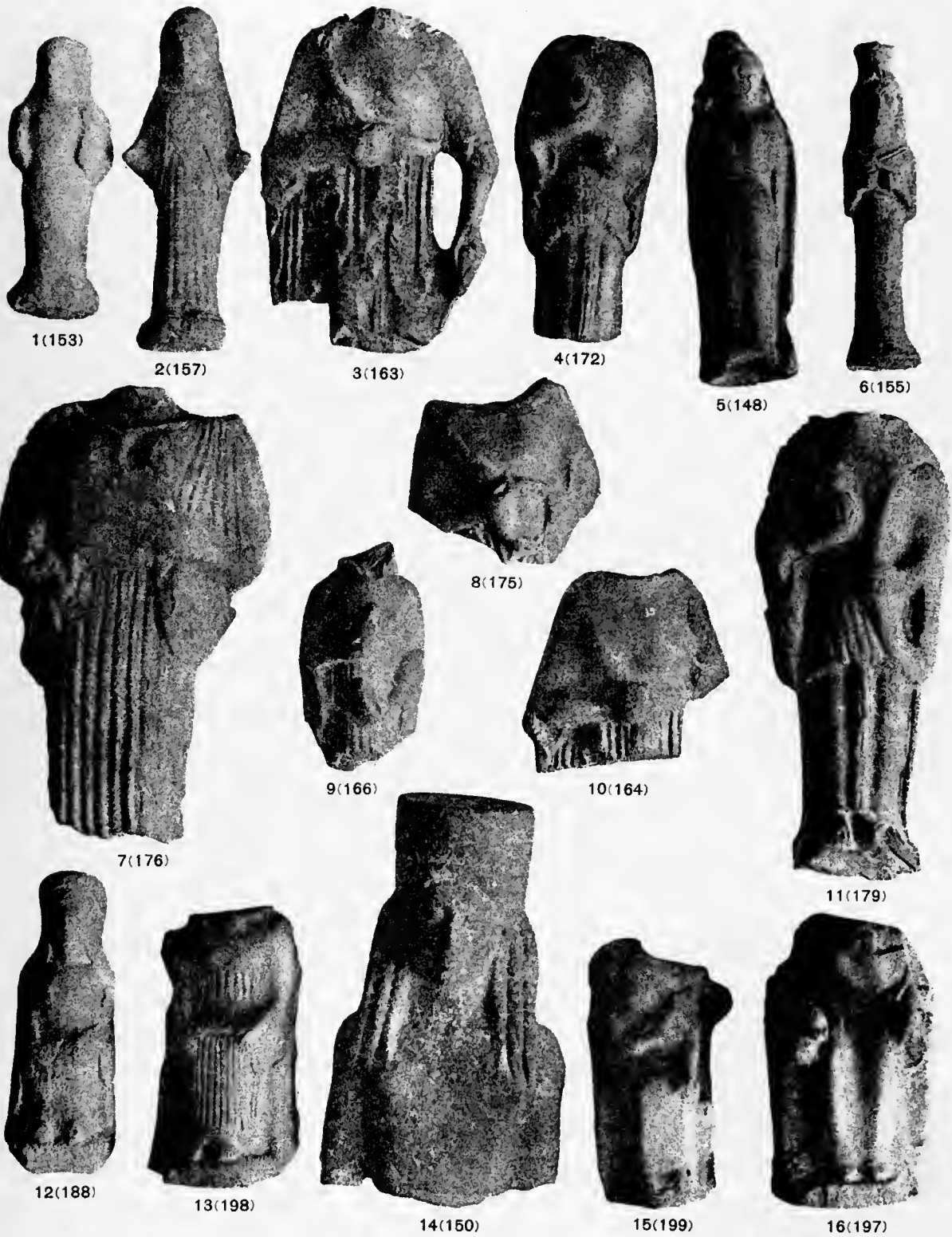


5(91)

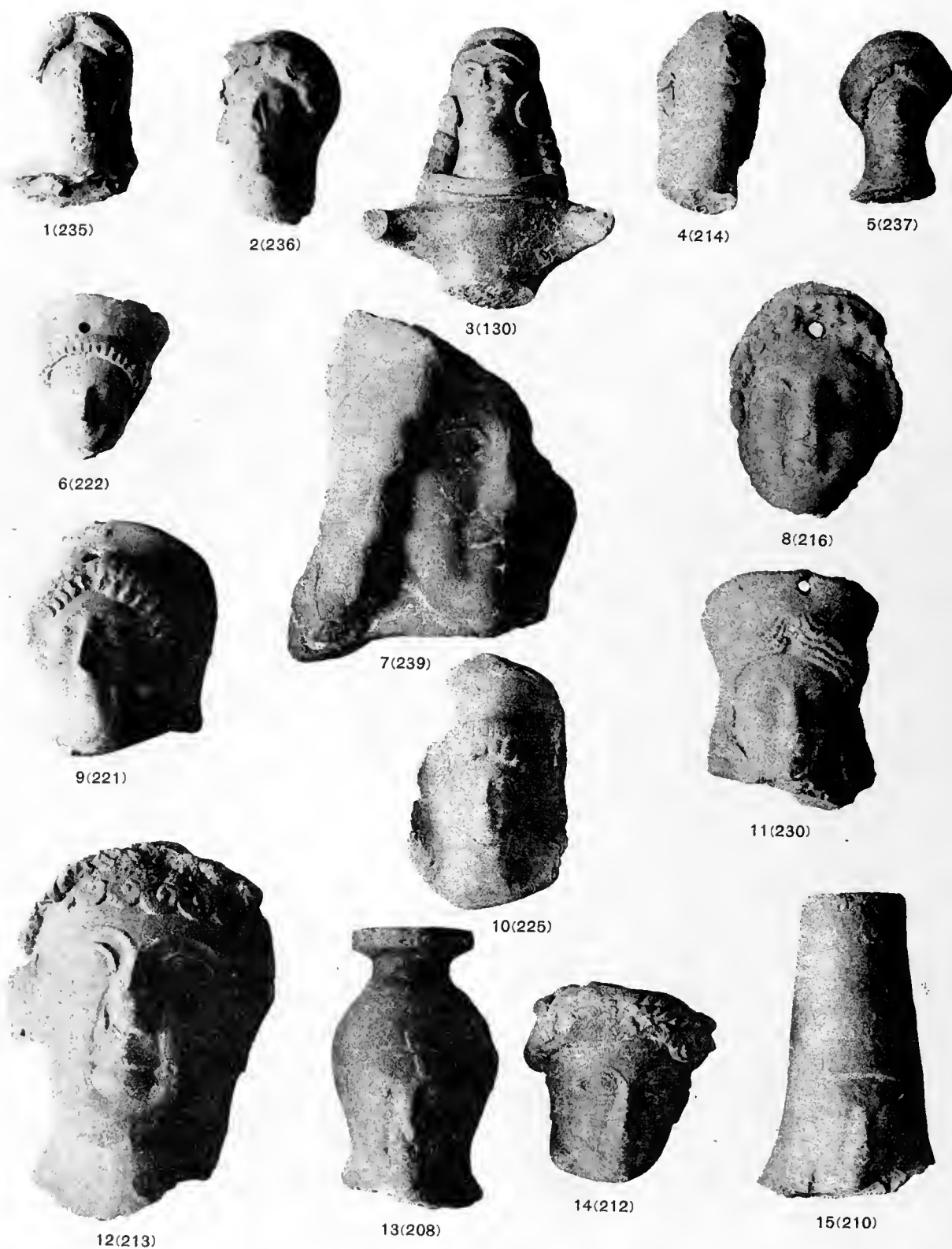
TERRA COTTA FIGURINES.—ADVANCED ARGIVE TYPE



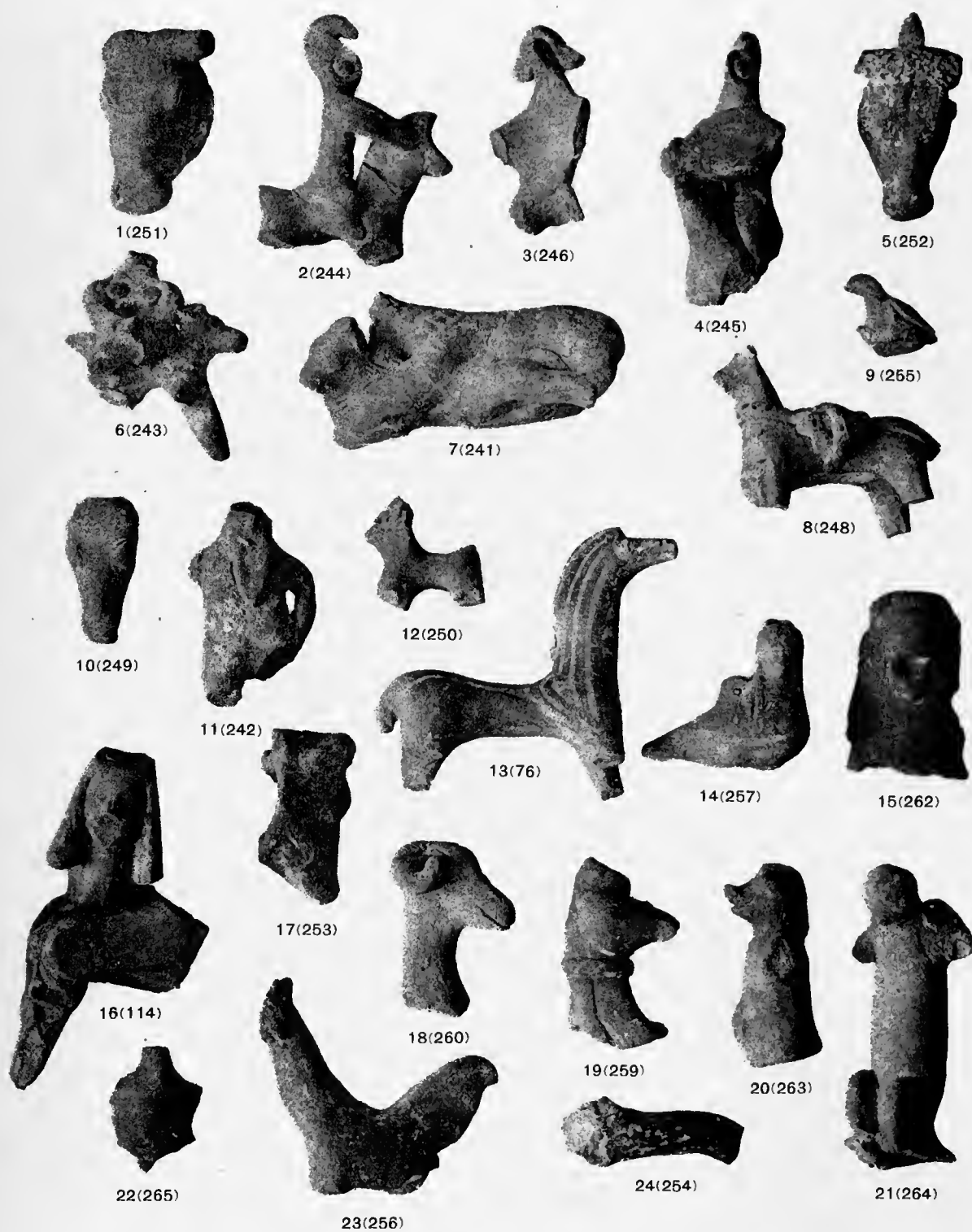
TERRA COTTA FIGURINES. — ADVANCED ARGIVE TYPE: HEADS



TERRA COTTA FIGURINES.—EARLY ARCHAIC TYPE



TERRA COTTA FIGURINES.—EARLY ARCHAIC TYPE (Nos. 3, 4, 6, 8—10, 12—15);
ADVANCED ARCHAIC TYPE (Nos. 1, 2, 5, 11); FREE STYLE (No. 7)



TERRA COTTA FIGURINES.—ANIMALS

THE TERRA-COTTA RELIEFS



THE TERRA-COTTA RELIEFS¹

BY CHARLES WALDSTEIN AND JOSEPH CLARK HOPPIN

THE Terra-Cotta Reliefs form a portion of the interesting finds among the objects of the lesser arts which the excavations at the Argive Heraeum has yielded. The greater number of them were found during the first season in 1892, in what we termed the "black layer" below the foundation walls of the Second Temple. Though we are not justified in saying that this black layer ran continuously round the foundations of the whole Temple, earth of this consistency, containing objects of the same character, was found at so many points in the filling for the Second Temple that a certain degree of continuity may be assumed. Still, at times, the black earth was found in greater thickness and the objects in greater profusion; so that we were led to use the term "pockets." Other specimens were discovered, chiefly on the south and southwest slopes, in the third layer of earth which had been massed as filling for the Second Temple; so that on the whole, the provenience of all these objects may be designated as the filling below the Second Temple. The chronology of all objects found in this filling would thus be fixed in the one direction as being prior to the year 423 B. C. The other limit cannot be determined in the same way by the conditions of excavation; especially as objects manifestly belonging to widely different periods were found together in this filling. We may, however, anticipate and mention one fact which will necessitate fuller explanation on some future occasion, namely, that none of these terra-cottas were found on the same level as the Mycenaean walls erected on the bed-rock below the filling. Further points, in so far as they can now be determined, will be noted as we examine each individual fragment.

The terra-cotta reliefs will be considered in two groups: first, those that ornamented flat objects of terra-cotta — plaques, tiles, *pinakes*, bricks, etc.; and, secondly, those that evidently formed parts of terra-cotta vessels or vases decorated in relief. We shall in this chapter confine our study to the former group.

These plaques (PLATE XLIX.) are ten² in number; they are all, with the exception of Nos. 9 and 10, in a more or less fragmentary condition.

1. Winged figure to right, legs in profile, head and body *en face*. Upper left corner missing. Length, 0.14 m.; width, 0.085 m.; thickness, 0.008 m. Found on the Second Temple Terrace.

2-4. Rectangular reliefs, bordered by incuse circles, the centres of which are raised, inclosing two square fields. In each field, a winged figure running or flying to left.

2. Length, 0.07 m.; width, 0.085 m.; thickness, 0.026 m.

3. Length, 0.10 m.; width, 0.085 m.; thickness, 0.027 m.

4. Length, 0.117 m.; width, 0.073 m.; thickness, 0.023 m.

All these were found in or back of the South Stoa.

5. Form similar to No. 2, rectangular field. Two men facing each other with uplifted arms. Length, 0.096 m.; width, 0.086 m.; thickness, 0.031 m. Second Temple Terrace.

¹ This chapter, descriptive of them, is here reproduced as published in the *American Journal of Archaeology* (vol. II. 1898, pp. 173-186), with slight corrections and additions.

² An eleventh fragment, similar in form to No. 2, but with only a foot showing in the field, was too much mutilated to be published.

6. Part of a rectangular relief, representing a bearded man in a chariot, driving a quadriga. Length, 0.085 m.; width, 0.087 m.; thickness, nearly 0.01 m.

7. Fragment with similar subject, only one horse, much smaller and less well preserved. Length, 0.069 m.; width, 0.43 m.; thickness, 0.01 m. Both Nos. 6 and 7 from the Second Temple Terrace.

8 a and b. Two fragments from the same relief. Ineusc circles as in No. 2, bordering square fields. Also a rosette with eight leaves.

(a.) Fore part of Centaur to right, holding a branch. In the field, rosettes formed of four leaves and four diamonds alternating.

Length, 0.091 m.; width, 0.079 m.; thickness, 0.018 m.

(b.) Lower portion of a kneeling figure to left.

Length, 0.067 m.; width, 0.056 m.; thickness, 0.02 m. Found back of the South Stoa.

9. Small square relief, well preserved. Above, an extension pierced by a hole. In the field, a lion to right.

Length, 0.05 m.; width, 0.045 m.; thickness, 0.014 m. From east of the Chambers on the Second Temple Terrace.

10. Small rectangular relief. Two women in a chariot to right, driving a quadriga. Upper part pierced by a hole.

Length, 0.054 m.; height, 0.046 m.; thickness, 0.01 m. Probably found back of the South Stoa.

All these plaques, with the exception of No. 8, are made of a fine reddish clay. No. 8, however, is made of a very coarse greenish yellow clay, in which small stones are visible.

The question what purpose these plaques served is not easily determined. There are two classes of ancient metal relief work: *repoussé*, or beaten work, and pressed, or stamped work. The stamped work, especially in soft and thin gold, was evidently made from a mould¹ upon which the thin metal was pressed. The use of so brittle a material as clay, however hard the baking may have made it, and however thick such brick-like plaques as Nos. 2, 3, 4, and 5 may be, would be strange. Still it is not impossible that the examples just mentioned may have served that purpose. All these reliefs are influenced to some degree by the style suggested by metal work. It is not impossible that they may have served as "backing" for a thin coating of metal. But this is not likely, because for this the same objection of the softness and brittleness of the material might be adduced. Moreover, there is no trace whatever on their surface that such a covering existed. And, considering the peculiar adhesive effect the oxydization of bronze exerts on extraneous objects (many vases being found at the Heraeum to which bronze objects were stuck fast), it is inconceivable that no traces of such a covering should have been found. A specimen of a mould in terra-cotta was found at the Heraeum, 0.11 m. in length, 0.7 m. in width, and about 0.01 m. in thickness, flat on one side and curved on the other. In the flat side were several holes of varying shapes, sunk to a depth of several millimetres. A cast taken from this mould showed a series of objects, one of which undoubtedly represented a mollusk, the *murex*, or purple shell, so common on Mycenaean vases. The artist has made the common mistake in representing this shell sinistral instead of dextral; he has also made the anterior canal too wide. Whether the others represent nuts, fruit, or seeds of various shapes, we cannot decide. The nearest analogies to such a mould are found in Naucratis,² and the so-called "cake-stamps" (*Naukratis*, I. p. 45, pl. 29), which are clearly of a very late date. Mr. Cecil Smith

¹ See a good instance of this in the bronze mould in the Ashmolean Museum, Oxford, published by H. Stuart Jones, *J. H. S.* 1896, p. 323.

² Cf. also Evans, *J. H. S.* VII. p. 44, and Introduction, p. xlv.

informs us that there are in the British Museum, thus far unpublished, stamps of a similar shape to ours, but none with the same subject. The presence of the *murex* might point to a somewhat early date for our mould, but there is no further clue to the date.

That all these plaques are *ex votos* is the only natural explanation of their existence at the Heraeum. Nos. 9 and 10 certainly serve that purpose, as the holes in their upper parts for hanging them up show, and Nos. 1, 6, and 7 can hardly be anything else.

The technical method seems to have been the same in all, namely, that the clay was stamped while soft, and afterwards fired. Nos. 8 and 9 present the peculiarity of being treated with a sharp knife after firing, in order to express details and to emphasize lines; this is apparent from the knife-marks on the surface of the clay, and from the fact that in several places the outlines have been trimmed down, leaving a fainter line at the back of the relief.

No. 1. — This relief is especially interesting in that while, as we shall see, it manifests Hellenic elements, it has traces of Oriental influence more strongly marked than the others. In fact, we may say that the terra-cottas in relief manifest the 'Oriental' character in far greater proportion and pronouncedness than is the case with the terra-cotta figurines in the round. While we found but few specimens among our many hundred figurines which bore clear traces of Oriental influence, the proportion of terra-cotta reliefs which show this influence is very large, and, as in No. 1, this Oriental character is clear and pronounced. This is a very significant fact, strengthening, as it does, our conviction, based upon much testimony from other quarters, that Greek sculpture in the round, the *statue* of pure art, is a specifically Greek development; while Oriental influences only find their way into Greece through the channels of *decorative* art, especially through ornamental vessels in ceramic art and metal work.

The subject represented is, at first sight, quite simple. It is a nude, winged figure. The upper part of the body, as well as the head, is in full face, while the lower part from the waist downwards is in profile. This want of unity in composition is the rule with reliefs, as well as figures in the round, of this early period. Such inconsistency in attitude, by a curious effect of conventionalism, survived long after the artists had advanced beyond this point of archaic awkwardness. Ceramic art is a case in point, since not till after the Persian wars was this conventionality abandoned, and instances in sculpture are too numerous to mention.

The head¹ is surrounded by a mass of hair, which falls down to the shoulder on both sides in a heavy, ribbed mass, while over the forehead it lies in waves. On the left eye is a slight indentation which at first sight seems like an iris, but which on a careful examination proves to be merely accidental, no such hole being apparent in the other eye. The nose is flat and the mouth hard and straight, a slight effort being made to model the lips and chin. The scheme of the hair is strikingly like that of the Melian or the Tenean Apollo.

The wings present this peculiarity, that they grow directly from the breast, in front of the shoulders, which they entirely conceal. The arms are comparatively thin, a result, perhaps, of the difficulty the artist found in dealing with several different planes, the arms being drawn behind the wings.

Whether the figure is male or female is difficult to decide, but it is more probably the

¹ The head of this figure resembles slightly that of the female Centaur on the Relief Vase in the Louvre. Cf. De Ridder in *B. C. H.* 1898, pls. iv. and v.

former. When it is carefully examined, the traces of a very short wavy chiton can be discovered, at a slight distance below the waist. Female figures in archaic art are never represented, as far as we know, in a chiton of such shortness. Though there are many points of difference, a comparison of this plaque with the bronze relief from the Acropolis¹ induces us to believe that our figure is male.

The thighs are large in proportion to the body, with careful modeling of the muscles, especially about the knee. The nates are small in proportion to the thighs, a peculiarity seen also on the Selinus Metope of Heracles and the Cercopes. The legs from the knee downwards are extremely thin, similar to those of the Tenean Apollo. In fact, our relief seems to afford a mixture of the exaggerated muscularity of the Selinus Metope and the slimmness of the Tenean Apollo.

The attitude of the figure is not necessarily that of one walking, but is due rather to the inability of the artist to represent the legs and feet from the front. What the hands hold is clearly not a wreath, but a conventionalized flower or branch. This forms part of the action itself, since each hand holds an end of the ornament, and it thus becomes a sort of *contaminatio* of a plant and scroll ornamenting the background, introduced at the same time into the action of the figure itself. This action is, in reality, a reminiscence of the well-known "Thierbändigerschema,"² of which the Persian Artemis,³ falsely so called, is a good example. The winged figure in this connection was one of the types adopted by the Greeks, and was remodeled to suit their own peculiar needs, since, though the Hellenic character of the Persian Artemis is now established, no one denies that the original type was a foreign importation. The addition of the wings seems to be a feature of the later archaic art,⁴ since they are certainly unknown as attributes of the human figure in Mycenaean or Geometric art, nor do we find them on the "Island Stones."⁵

The mythological significance of the relief, if such it has, is not clear to us. We can only say that it is a winged figure treated in an ornamental manner. We use the term "ornamental" advisedly, with a more literal signification than is generally given; for one of the most peculiar and striking features of this representation is the action of the figure. The winged "genius" is holding in both hands a mere ornament, a decorative design, which certainly is no implement of use, nor has it any special significance. But the use made of it here is quite distinctive and original. It is as if the decorative feeling of the modeler of the plaque had been so strong that it obtruded itself into his representation of a human figure, becoming an integral part of the attitude and action, at the expense of the logic of representation, as far as the human figure itself is concerned. This introduction of the ornament seems to point to two customs in the decoration or framing of scenes and representations of figures on vases, bronzes, terra-cottas, etc.; namely, the continuous scroll or other ornament bordering these scenes, as with a frame, and the introduction of ornaments into the field or background, which the Germans have called "Füllornamente." Such framing bands and "Füllornamente" are the composite motives which appear to have led the artist to introduce this new form of ornament into the field of this relief.

We have had occasion to cite the "Persian Artemis" as an analogy to our figure. A direct repetition of the motive of our plaque may be found on a bronze plaque from

¹ J. H. S. 1893, p. 259, fig. 26 (Bather).

² E. Curtius, *Gesammelte Abhandlungen*, II. pp. 110 ff. ('Wappengebranch und Wappenstil im Alterthum').

³ Studniczka, *Kyrene*, p. 155.

⁴ Milchhöfer, *Anfänge der Kunst*, p. 86; Tsountas,

Εφ. Ἀρχ. 1891, pp. 34 f. Cf. Langbehn, *Flügelfiguren*, etc.

⁵ We have just heard from Mr. Hogarth that winged human figures which he considers to be of 'Mycenaean' style have recently been discovered by him in Crete.

Dodona,¹ but of a manifestly later date. Here, however, the ornament has been treated in a precisely similar fashion, the ends of the scroll being held in each hand. In spite of the lateness of the Dodona plaque, a quasi-Oriental influence may easily be detected. A similar position of hands may be noticed on the Euphorbus plate.²

An almost exact duplicate of our figure may be found on the gold *hormus* from Camirus.³ Though the centaur, with whom our figure invites comparison, has no wings, the most striking similarity of style is noticeable when we compare the two. The treatment of the hair, body, nates, and legs is identical. The wings are supplied by the Artemis on the same jewel, and, moreover, present the same peculiarity we have commented on before, namely, that they grow directly from the breast, concealing the upper part of the arm and shoulder. Our figure, in fact, might almost be composed by a combination of the centaur and the Artemis on the *hormus*. This jewel, which is certainly Rhodian, exhibits more than any other work known to us so marked a similarity of style and technique with our plaque as to suggest some very close connection between them. More than this we do not venture to say, since it has not yet been determined whether Rhodians were influenced by Argives, or *vice versa*. It may well be the case that the Rhodian types are derived from Argos, since Camirus, according to legend, was a colony of Argos, founded by the Heraclid Tlepolemus,⁴ and was counted as one of the towns of the Doric Hexapolis. The presence, also, of the Argive alphabet in Rhodes is well known. (Cf. the Argive *lambda* on the Euphorbus plate.) As a last comparison, we might mention a relief somewhat similar in style, but probably earlier, found at Aegina.⁵ This relief exhibits the greatest similarity in the treatment of the hair. That it is Peloponnesian and not Aeginetan seems fairly evident.

In summing up, we may say that, while our plaque exhibits Hellenic features, especially in the modeling of the figure, the spirit of the composition and the introduction of the wings are distinctly of Oriental origin. Moreover, we find absolutely no Mycenaean or Geometric elements, but those which are characteristic of the early Corinthian vases. We are forced, however, to assign our relief to a slightly later date than those vases which exhibit this "Thierbändigerschema," since the conventional and decorative treatment of the ornament of our plaque, admittedly without a meaning, is certainly later than this *schema*, not earlier. Therefore we may assign it approximately to the beginning of the seventh century B. C. Even in the best period of Greek art, such a decorative solecism may be met with, as, for instance, in the beautiful red-figured vase of astragalus shape, signed *Συρίσκος ἐποίησε*, in the Papa Giulio Museum at Rome.

Nos. 2-5. — These are all of similar technique, and evidently contemporaneous. Fragmentary as they are, we have still enough to show that their dimensions were from 0.10 to 0.12 m. long and 0.7 to 0.9 m. wide. Of all our reliefs, these show the metal influence in a most marked manner, the incuse circles being probably an imitation of the nail-heads used to fasten bronze sheathing to wood, while the division into fields, as well as the technique, finds its parallel in the series of bronze reliefs from Olympia,⁶ Dodona,⁷ the Acropolis,⁸ and the temple of the Ptoan Apollo.⁹ The subject of the reliefs Nos. 2-4

¹ Carapanos, *Dodona*, pl. xviii. fig. 3.

² Salzmann, *Necropole de Cameiros*, pl. liii.; cf. also pl. xxvi.

³ *Ibid.* pl. 1.

⁴ Diod. IV. 58; V. 57; Pind. *Ol.* vii.

⁵ Staïs, 'Εφ. 'Αρχ. 1895, p. 263, pl. xii.

⁶ Furtwängler, *Olympia*, IV. ('Die Bronzen') pls. xxxvii., xxxviii.

⁷ Carapanos, *Dodona*, pls. xvi.-xviii.

⁸ *J. H. S.* 1892-93, p. 249 (Bather); Wolters, *Athen. Mitt.* 1895, p. 473.

⁹ *B. C. H.* 1892, p. 348, pls. x., xi. (Holleaux).

A survey of such reliefs is given by De Ridder in his monograph, "De Ectypis quibusdam aeneis, quae falso vocantur Aegino-Corinthiaea."

is the same: two winged figures moving rapidly to the left in the usual "knielauf-schema."¹ What the objects are they hold in their hands cannot be determined with certainty; that in the right hand is paralleled by a similar object in the hands of the figures on the terra-cotta reliefs from Sicily² of later style. Kekulé, however, refrains from defining these objects. That in the left hand resembles an axe. To identify these figures as gorgons seems impossible, and we must be content merely to term them winged daemons. They are similar in style to the reliefs from Olympia,³ which contain figures called by Furtwängler "Daimons," retracting the view he had previously expressed in Roscher's *Lexicon*.⁴ It is impossible to tell whether the figures are male or female, though the latter seems more probable considering their similarity to the figures on the relief previously cited, which are certainly female. It may be here noticed that these figures bear a strong resemblance to the "Niké of Archermus," but with the same difference that we shall plainly see when we compare them with gorgons. Such monsters, while generally represented in the "knielauf-schema,"⁵ have always the body in profile and head *en face*, and in the case of our figures both head and body are represented in profile. Moreover, our figures are not holding the usual bird or animal. Only one relief in terra-cotta of similar technique, though of different subject, is known to us;⁶ it represents the Persian Artemis in profile, holding a bird in each hand. The incuse circles are precisely similar to our reliefs, and a rosette there is similar to those on No. 8. Though little connection may be assumed between the Persian Artemis and our daemons, we see that the same Oriental influence was at work at the time of their manufacture.

No. 5. — What the subject of No. 5 represents is extremely doubtful, and several interpretations are open to us. It might be a boxing match, if such be the correct identification of the two Olympia reliefs (*Olympia*, IV. pls. 39, 703, 704 a; cf. also Furtwängler, *Bronzefunde*, p. 91), or the similar group on the Geometric vase of Copenhagen.⁷ A certain similarity may be detected if we compare our relief with a group on the well-known Tripod vase from Tanagra in Berlin.⁸ Save that no traces of a wreath can be discovered, the scene on our relief further resembles one of the Ptoan reliefs already cited (*B. C. II.* 1892, pl. xi. 3; No. 45 in De Ridder, *op. cit.*). Again, were it not for the lack of the tripod, a connection might be assumed with the scene on the mould in the Ashmolean Museum we have already referred to. Perhaps we might recognize in it the ἀκροχειρισμός or the preliminaries of the wrestling match. Instances of this have been identified in several monuments.⁹ Or perhaps the action of our relief may be only a salutation. More than this we cannot say.

In style there is a closer analogy between this relief and bronze relief work than is the case with Nos. 2, 3, and 4. The treatment of the figures is precisely identical with that of the above-mentioned Ptoan relief, both in the hair and in the build of the bodies. The profiles, too, are similar. Thus the question of dating our plaques becomes much

¹ Curtius, 'Die Knieenden Figuren der Altgriechischen Kunst,' *Winckelmanns Programm*, 1870 (*Gesam. Abhand.* II. pp. 116 ff.).

² Kekulé, *Terracotten von Sicilien*, pl. lv.

³ *Olympia*, IV. pls. 39, 699 a, p. 102, No. 1.

⁴ *Ibid.* I. p. 1709, s. v. Gorgonen.

⁵ Milchhöfer, *op. cit.* p. 86, fig. 56.

⁶ Lenormant, *Arch. Zeit.* 1866, p. 258, pl. A.

⁷ Furtwängler, *Arch. Zeit.* 1885, p. 137, pl. viii.

⁸ Loescheke, *Arch. Zeit.* 1881, pl. iii.

⁹ Waldstein, in *Proceedings of the Cambridge Philological*

Society, 1882, p. 2, where, in connection with Arist. *Eth. Nic.* III. 1. 17, p. 1111 (Bekk.), the following illustrations are mentioned: A vase in the possession of the late Camille Leeyner at Paris, a relief in Clareae, *Musée de Sc.* II. pl. 184, No. 55; Krause, *Gymnast. und Agonistik*, II. pl. x. 29. Cf. also Vase Catal. Brit. Mus. III. E. 78, as well as Gerhard, *Ant. Bildw.* pl. 89, also Baumeister, *Denkmäler*, I. p. 502, fig. 544. I have recognized another representation of such a scene in a vase in the Museum of Fine Arts, Boston, which I hope soon to publish.

simplified. For, though we cannot say with absolute certainty which of the two is earlier, the fact that they are contemporaneous (at least they would both belong to the same decade) is too evident to be doubted. These bronze reliefs belong approximately to the beginning of the seventh century, which gives us a similar date for our reliefs.

No. 6. — This design here seems rather more advanced in style. The subject of a charioteer in his chariot was not only common through Egyptian and Assyrian art, but was a favorite theme throughout the whole Mycenaean period, as is shown by the grave-stelae found by Schliemann at Mycenae. We owe the introduction of the quadriga to the Dipylon period, from which certain features of our relief are evidently derived, namely, the connection of the pole to the wagon by a rope or staff extending from the dashboard.¹ The *ἀντις* has the usual curved form seen on Egyptian wagons, and the wheels are of the common type found on most of the Dipylon chariots. A counterpart of this group may be found on the François vase,² the figure of Zens in his chariot at the marriage procession of Peleus and Thetis. In fact, we are in a position to date this relief between the Dipylon period and the François vase. Its Hellenic origin need not be questioned; there is certainly no trace of Ionic influence.

No. 7. — The technique of No. 7 is vastly inferior. It has also suffered far more from abrasion. This makes it difficult to decide whether one or two persons are represented in the chariot, more probably only one. Doubt also exists as to whether the charioteer is holding the reins or is in the act of shooting an arrow, and from the curious position of the body with regard to the chariot, a certain similarity may be deduced with the marble relief³ from the Acropolis of the figure mounting a chariot. At all events, the chariot shows the same influence as No. 6. Its chief peculiarity lies in the fact that but one horse is represented, which fact must be assigned to the incompetence of the artist, since never, in Greek art, does a chariot of this form, drawn by one horse, occur.

Nos. 8 a and b. — That these fragments fit together is fairly evident; but unfortunately the sides of the fracture, owing to the soft texture of the clay, have been considerably worn away, and thus the breaks, while following the same lines, do not coincide exactly. Still, the foot in the upper right-hand corner of *a* is the continuation of the leg of the figure in *b*. Aside from its peculiar technique, to which we have already called attention, its chief interest lies in the seeming irregularity. Portions of three fields are preserved, two of which are separated by the same incuse circles met with in Nos. 2, 3, 4, and 5. The rosette of *a* falls beneath the field of *b*, being used instead of an incuse circle, as we found in the case of the Lenormant plaque from Mycenae. It is impossible, however, to tell the general form of the relief, how many fields it contained, or what subject is represented. As in the case of Nos. 2 to 5, the connection between this and the metal reliefs is obvious.

The centaur, the chief figure of the relief, is represented with a horse's fore legs plainly visible, though their lower part is missing. This type of a centaur with the fore legs of a horse is later than that with human fore legs.⁴ When exactly the later type was introduced cannot be determined, there being no distinct dividing line between the two types, which often appear side by side.⁵ On archaic gems,⁶ however, only the later type occurs. Evidently the two styles continued together for a considerable period. So far

¹ Helbig, *Das homer. Epos*, p. 141, note 3, fig. 83. Cf. Furtwängler, *Arch. Zeit.* 1884, p. 108, pl. viii. 4.

² *Wiener Vorlegeblätter*, 1888, pls. ii.-iv.

³ Collignon, *Hist. de la Sculpture Grecque*, I. fig. 194.

⁴ Roscher, in *Roscher's Lexicon*, II. p. 1076.

⁵ For example, on the frieze from Assos, Clarke, *Investigations*, etc. pls. xv., xx. See also on a Cyrenean Vase, *Arch. Zeit.* 1881, pl. xi.

⁶ Rossbach, in *Arch. Zeit.* 1883, pl. xvi. fig. 16.

as can be judged from other monuments which illustrate the later type, we are justified in regarding our relief as one of the earliest examples of that type.

To restore the kneeling figure is impossible. It suggests faintly the "knielauf," but that can hardly be the action. The position of the legs resembles to a certain degree that of the figure on the metal relief from Olympia.¹ As no trace of a bow or arrow can be found on our figure, its reconstruction as an archer is impossible. Apart from the carefulness of detail, the dress of the figure is a most interesting feature. The figure wears a broad belt, and above it the lines of the chiton are indicated by incisions in the clay. No trace of any lower garment can be discovered. Whether this, as well as the fact that the sex of the figure is not indicated, points to any intention on the part of the artist to denote a close-fitting under-garment is doubtful. Carelessness is again the probable explanation. This garb is paralleled by the figures on the Vaphio cups,² which wear the broad belt continued below the waist as a sort of breech-cloth, though the upper part of the body is left bare. The portion remaining of the third field is so small that we cannot determine what the figure was. It might be the rear portion of a bird, and the whole a figure of the Persian Artemis type.

While assigning an Hellenic origin to No. 8, we must nevertheless class it among the works of the so-called Oriental Greek style, of which the Argive-Corinthian is a part. The incuse circles we have already discussed; the rosette is a favorite form of decoration all through the "Corinthian" period, besides occurring on bronze reliefs.³ The ornament above the centaur is characteristic, and may be found on a Melian vase.⁴ Here we have the use of the ornament in the field as an instance of the *horror vacui* so characteristic throughout the "Corinthian" period, a feature which does not obtain in the succeeding periods. We may, therefore, be justified in assigning this relief to the end of the seventh century, perhaps a little later. Earlier than the spread of the Oriental influence it cannot be.

Nos. 9 and 10. — These fragments properly belong together, since both are complete and illustrate admirably the *pinax* form. This in itself would show their connection with the Corinthian *pinakes*⁵ in Berlin, since the *pinax* does not seem to have been used prior to this period. The lion on No. 9 is chiefly remarkable for the enormous size of his head in proportion to his body. From the absence of any ornaments in the field, as well as from this peculiarity of head, which strongly resembles that of the lions on "Early Attic" vases,⁶ we should feel inclined to assign this plaque or *pinax* to a later stage of the Corinthian period, perhaps about the early part of the sixth century. No. 10, on the other hand, shows traces of Dipylon characteristics. In spite of the abrasion from which the relief has suffered, it is evident that two women are represented, but in a more advanced style than is characteristic of the Dipylon period; the horses, however, show the feeling of Dipylon art. Nothing of the chariot is plain, except that the wheels are probably four-spoked, though even this cannot be decided. No. 10 is to be assigned to a later date than the Dipylon period, but probably earlier than No. 6.

¹ *Olympia*, IV. pl. 40.

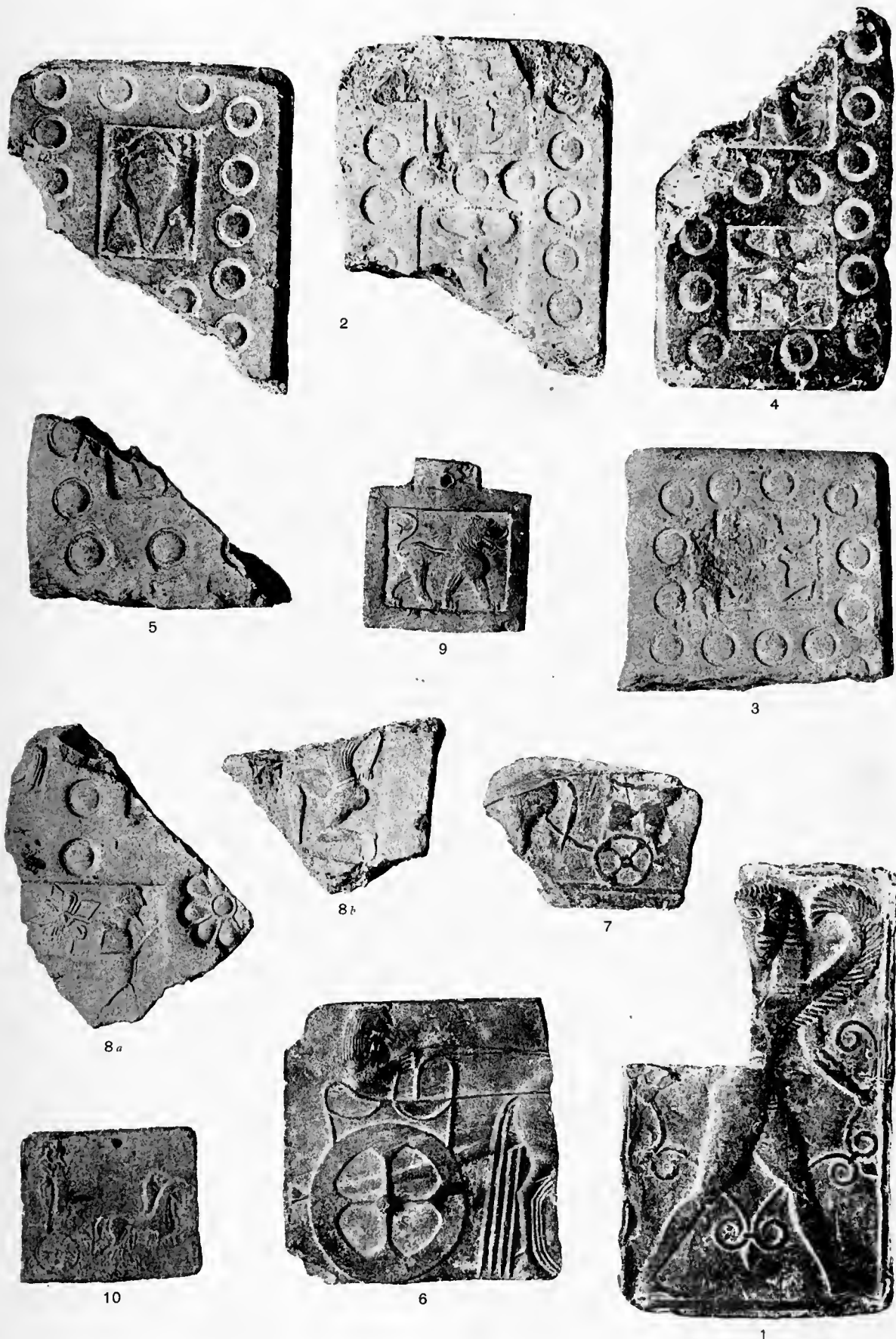
² Tsountas, in 'Εφ. 'Αρχ. 1889.

³ *J. H. S.* 1893, p. 246, fig. 18 (Bather); *Olympia*, IV. pl. xxxvii. 712.

⁴ Conze, *Melische Vasen*, pl. ii.

⁵ Furtwängler, *Vasensammlung*, I. p. 47.

⁶ Böhlau, *Jahrbuch d. Inst.* 1887, pl. iv.



THE ARGIVE HERAEUM.—TERRA COTTA RELIEFS

THE VASES AND VASE FRAGMENTS

THE VASES AND VASE FRAGMENTS

By JOSEPH CLARK HOPPIN

PREFACE

THE publication of the Vases and Vase Fragments from the Heraeum has proved a far more arduous task than I expected when the work was intrusted to me eight years ago. As the time for committing it to the press approaches, I am keenly conscious of its many shortcomings, for, in the six years which have elapsed since the completion of the work and its final revision before going to press, the quantity of new material found in Greece, which might serve to throw new light upon many of the problems the vases from the Heraeum afforded, has increased enormously, and the greater part of it, being as yet unpublished, has been inaccessible to me. I could also wish that it had been possible for me to make the final revision of the work in Athens, with the actual material at my command, since I realize very clearly that many of the points which have presented themselves to me during the six years since I left Athens must remain all too superficially treated, owing to incomplete notes and a memory sometimes treacherous. Such cases, I hope, will not prove of vital detriment to the value of the work.

Two facts must be mentioned to secure a fair understanding of the work. First, owing to the smallness of the means at my command, I am unable to publish the material as I had originally hoped, and consequently have omitted much which, though not of supreme importance, would have been of distinct benefit had it been possible to retain it. Secondly, I see very clearly that the enormous mass of material should, to secure the best results, have occupied the attention of several workers for at least twice the length of time I have been able to devote to it. Thus the work as it now appears is a small selection of the total material, and cannot in the strictest sense be called either final or complete. I have endeavored as far as possible to present, or at least to mention, all the types and classes that were found; but important omissions must inevitably occur when over two hundred thousand fragments are to be dealt with. Classes like the Geometric or Argive should each be treated in as much space as the whole of this volume, if their elaboration were to be considered final. But the desire to make known to the world as soon as possible the results of one of the most important modern excavations has induced us all to hasten the completion of our several tasks, and leave the various finer points to be more carefully investigated by our successors.

It is a great pleasure, on the completion of my task, to look back on the warm friends it has brought me, and to thank them for the many and various kindnesses received at their hands. First and foremost, I wish to thank most heartily my friend and chief, Professor Charles Waldstein, for the ready help and encouragement he has always given me, for his keen and intelligent interest in my work, and for the various suggestions and theories he has outlined for my benefit. The departure from Athens at the end of the first year's work of Dr. Theodore Woolsey Heermance, who had shared with me the disagreeable task of cleaning and sorting the fragments, deprived me of most valuable assist-

ance during the more interesting stage of studying and classifying the material; and I feel sure that, had it been possible for him to have shared the responsibility of the whole work with me, the result would have been far more satisfactory. I am indebted to him for the Appendix on the inscriptions that have been found on some of the fragments. Mr. Cecil Smith of the British Museum will always have my warmest gratitude for the many kindnesses and useful suggestions so ungrudgingly given me during my work in London.

Further, I wish to express my thanks to Messrs. Kavvadias, Stais, and Tsountas of the National Museum at Athens, for their courtesy and kindness in extending to me, during my three years in Athens, the utmost privileges of the Museum; to Professor Wolters and Dr. Zahn of the German Archaeological Institute at Athens, for putting the material from the Acropolis and Aegina so openly at my disposal; and to Mr. David Hogarth, sometime Director of the British School at Athens, for an opportunity of seeing the pottery found in his excavation at Melos. I have also received many valuable suggestions from Professor Ernest Gardner of University College, London, Mr. Paul Perdrizet of the French School at Athens, and Mr. Carr Bosanquet, Director of the British School at Athens.

I must not forget to thank Mr. Gilliéron and Herr Rohrer for their careful and painstaking work in preparing the drawings and photographs. I am especially grateful to Janni Papadakis, vase-mender in the National Museum at Athens, who for three years helped and spared me in every way.

Last of all, I wish to express to my dear friend, Professor Richard Norton, Director of the American School at Rome, my grateful thanks for reading the manuscript of the work during its preliminary stage (a labor of love), and for the valuable suggestions he has given me.

NOTE.

In fairness to this section of the Heraeum publication the following facts should be stated. The manuscript was delivered to the committee on April 1, 1899. Two years later, in the hope of a speedy publication, it was revised as thoroughly as circumstances permitted. At the present date (November, 1903) the larger part has been in type for a year and a half, and any further revision is impossible for many obvious reasons without a complete rearrangement of the material. That it should not have been possible to consider the vases and fragments from the Heraeum in connection with the new phases of the Mycenaean era revealed by the recent excavations in Crete, no one regrets more than the writer.

ABBREVIATIONS EMPLOYED.

PUBLICATIONS.

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|---|---|
| <i>Athen. Mitt.</i> Mittheilungen des Kaiserlich Deutschen Archacologischen Instituts, Athenische Abtheilung. | <i>Bull. dell' Inst.</i> Bulletino dell' Instituto di Corrispondenza Archeologica. |
| <i>Röm. Mitt.</i> Mittheilungen des Kaiserlich Deutschen Archacologischen Instituts, Römische Abtheilung. | <i>Mon. dell' Inst.</i> Monumenti Inediti dell' Instituto di Corrispondenza Archeologica. |
| <i>Jahrb.</i> Jahrbuch des Kaiserlich Deutschen Archaeologischen Instituts. | <i>Not. d. Scavi.</i> Notizie degli Scavi (Academia di Lincei). |
| <i>B. C. H.</i> Bulletin de Correspondance Hellénique. | <i>Mon. Ant.</i> Monumenti Antichi. |
| <i>J. H. S.</i> Journal of Hellenic Studies. | <i>Arch. Zeit.</i> Archacologische Zeitung. |
| <i>A. J. A.</i> American Journal of Archaeology. | <i>Arch. Anz.</i> Archacologischer Anzeiger (in Jahrbuch). |
| <i>Rev. Arch.</i> Revue Archéologique. | <i>Ἐφημ. Ἀρχ.</i> Ἐφημερίς Ἀρχαιολογική. |
| <i>Gaz. Arch.</i> Gazette Archéologique. | <i>Class. Rev.</i> Classical Review. |
| <i>Ann. dell' Inst.</i> Annali dell' Instituto di Corrispondenza Archeologica. | <i>Berl. Phil. Woch.</i> Berliner Philologische Wochenschrift. |

CATALOGUES.

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| <i>Brit. Mus. Cat.</i> Catalogue of the Vases in the British Museum. Vols. II. and III. by H. B. Walters; vol. III. by Cecil Smith. | <i>Mun. Cat.</i> Jahn, Beschreibung der Vasensammlung König Ludwigs in der Pinakothek zur München. |
| <i>Louvre Cat.</i> Pottier, Catalogue des Vases du Louvre. | <i>Naples Cat.</i> Heydemann, Die Vasen des Museo Nazionale zu Neapel. |
| <i>Berl. Cat.</i> Furtwängler, Beschreibung der Vasen im Antiquarium, Berlin. | <i>Boston Cat.</i> Robinson, Catalogue of the Vases in the Museum of Fine Arts, Boston. |

MISCELLANEOUS WORKS.

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| <i>Ray. et Coll. Hist.</i> Rayet et Collignon, Histoire de la Céramique Grecque. | <i>Samm. Sab.</i> Furtwängler, Sammlung Sabouroff. |
| <i>Dum. et Chap.</i> Dumont et Chaplain, Les Céramiques de la Grèce propre. | <i>Aus. Vas.</i> Gerhard, Auserlesene Vasenhilder. |
| <i>Per. et Chip. Hist.</i> Perrot et Chipiez, Histoire de l'Art dans l'Antiquité. | <i>Baum. Denk.</i> Baumeister, Denkmäler des Klassischen Alterthums. |
| <i>Myk. Vas.</i> Furtwängler und Loeschke, Mykenische Vasen. | <i>Roscher's Lex.</i> Roscher, Lexikon der Griechischen und Römischen Mythologie. |
| <i>Myk. Thong.</i> Furtwängler und Loeschke, Mykenische Thongefässe aus dem Gebiete des Mittelmeers. | <i>Daremberg-Saglio, Dict.</i> Daremberg-Saglio, Dictionnaire des Antiquités Grecques et Romaines. |

INTRODUCTION

EARLY in the autumn of 1895, Dr. Heermance and I began cleaning the fragments of vases. These had been brought up from Argos to Athens in small baskets,¹ and included fragments varying from a foot square to pieces no larger than a finger-nail. None had been touched save a few baskets of the first and second year's digging, which had undergone a very superficial cleaning two winters before. Every fragment was thickly coated with a hard crust of dirt, and hydrochloric acid proved the only satisfactory cleanser. Large bowls were used containing a solution, two thirds acid and one third water, into which a basketful of fragments was put, stirred round for a few minutes, and then carefully rinsed in fresh water to avoid any after-effects of the acid. The fragments were then sorted, each class in separate baskets, laid out, and a search made for the component parts of a vase, a task attended with very unsatisfactory results, since in only a few cases could a vase be reconstructed in anything like entirety.

The number of fragments was enormous. No less than two hundred and sixty-five baskets, all more or less full, were cleaned. Owing to the removal of a good deal of waste dirt and closer packing of the baskets, the total material was compressed into about one hundred and fifty baskets. Just how many fragments were included is difficult to say; some baskets which contained large fragments held perhaps several hundred, while in others containing small fragments of the Argive and Corinthian classes, the number amounted to two or three thousand. Roughly speaking, the total number of fragments was about two hundred and fifty thousand. The final sorting gave the following proportion to the various classes:—

Plain	50 Baskets.
Glazed	30 “
Primitive	2 “
Mycenaean	13 “
Geometric	25 “
Argive	20 “
Corinthian	5 “
Black- and Red-Figured	2 “
Miscellaneous	3 “
	<hr/>
	150 “

By “plain” are meant all fragments which bore no decoration of any kind whatever.² These included a large number of fragments of Mycenaean and Geometric vases, but the bulk consisted of coarse fragments of wheel-made vases, which might belong to any period. In “glazed” are included all fragments which had been covered with a dark brown or black glaze, generally dull, but without other decoration. Some few

¹ The baskets were those usually employed in excavations, about 25 cm. in height and 30 cm. in diameter.
² It must also be remembered that the bulk of the fragments found at the excavation had no decoration of any kind, and were therefore not preserved, but thrown on the rubbish heaps. If, therefore, it had been possible to preserve all the fragments of such description, which undoubtedly included a large number belonging to the “Primitive” class, their number would have been materially increased.

of these belonged to vases of the Black or Red-Figured period, but the bulk bore no distinguishing characteristics. In addition to the whole number, five baskets contained vases in an intact or in slightly broken condition.

The proportion of the various sites was as follows:—

South West Corner	50 baskets	} S. Stoa 1894 & '95
S. E. Side	6 "	
S. Side, outside peribolos wall	3 "	
Old Temple	10 "	
Above Cyclopean wall	7 "	
Above Upper Stoa	6 "	
E. of chambers	20 "	
S. E. of Second Temple	5 "	
W. Building	2 "	
N. W. Building	5 "	
First year of excavation	30 "	
Unknown	6 "	
	<hr/> 150 "	

Baskets of the first year's digging contained fragments from the Second Temple Terrace, but no more definite information is preserved. Fragments of every kind were found in all these places, but certain classes were more common in certain spots than in others; for instance, on the Old Temple Terrace¹ and in the corner of the second platform below the Cyclopean wall and east of the Chambers, the Geometric fragments were much more numerous than any other kind, while in the southwest corner (east of the retaining wall of the West Building) Mycenaean predominated. The Argive (so-called Proto-Corinthian) style was found in greatest quantities in the southwest corner and on the Old Temple Terrace. Other classes were divided with comparative evenness all through the excavation.

Little advantage is to be gained from the knowledge (in the case of the vases, at least) whence each separate fragment came. Throughout the preliminary stages of the work the fragments from each spot were kept carefully separate, but this proved impossible after the task of piecing them was begun. In several cases fragments from the same vase were found several hundred yards apart. It must be remembered that no apparent trace of layers which could be chronologically divided was observable in any of the different finding places, for the pockets where the fragments abounded in greatest quantity showed that the material had been shoveled in helter-skelter, and it was quite usual to find Mycenaean fragments near the top and Argive near the bottom. In the case of vases of any especial importance, the finding place will always be given in the course of this work.

It is extremely difficult to make a precise estimate of the number of vases which these fragments represent. The number of vases intact or only slightly broken amounted to a little more than a thousand. From the fragments about ten vases were reconstructed almost entirely, about fifty partially so; while those represented by only half a dozen fragments apiece amounted to between two and three hundred. If we should make the extremely modest calculation of four or five fragments to a vase, we should have about fifty thousand vases.

¹ Professor Waldstein informs me that to the best of his recollection this statement is not correct. My only authority for the statement is that several of the baskets,

which were clearly labeled "Old Temple Terrace," contained numerous fragments of the Geometric style.

In planning this work, I have endeavored, as far as possible, to model it on Furtwängler and Loeschke's *Mykenische Vasen*. The chief difficulty experienced among such an enormous mass of fragments was in making a collection for publication which should be representative. In doing so I preferred to err on the side of presenting more fragments than were absolutely necessary, believing that such a plan was better than presenting too little, but I have not hesitated to omit types which are universally known.

Roughly speaking, the Heraeum vase fragments cover almost the whole period of Greek ceramic art from its birth to its decline, a period of perhaps over two thousand years. It will be further shown how the bulk of this material is characteristic of the Argolid, a genuine home industry, and that little was imported. The indigenous types represented are: —

- Prehistoric.
- Mycenaean.
- Geometric.
- Argive.
- Local (or types which have no prototypes).

Foreign (i. e. imported) types are:

- Corinthian.
- Early Attic.
- Attic Black-Figured.
- Attic Red-Figured.
- Cyrenean.
- Megarean ware.
- Roman.

Now, though the list of imported types is larger than the local, the amount of such material is scarcely a tenth of the latter. The reason for the exclusion of foreign products, especially Attic, will be shown later.

The reader may notice that the discussion and exposition of the various vase-classes given here differs materially from that given by Professor Waldstein in the Introduction to this publication. In order that there may be no room for misunderstanding with regard to this point, I desire to state specifically the reasons for this discrepancy.

After two years' work on the fragments, I had independently reached the conclusion that the so-called Proto-Corinthian style included more varieties of vase-classes than had usually been assigned to it, and that it was probably of Argive origin, — a conclusion which confirmed the views expressed by Professor Waldstein four years before. Also that the style was an offshoot of the Mycenaean style, and contemporary with the Geometric, having as its chief motives the arrangement of parallel bands so characteristic on Mycenaean vases. After communicating this view to Professor Waldstein I found that he not only had reached the same conclusion, but was disposed to regard the style as one of the links in a chain which went much farther back, as a development of the principle which he calls "Linear," and which he claims existed in an unbroken sequence from the earliest times. He has already developed his theory so carefully that I do not feel the need of repeating what has been better expressed by him in the Introduction. This is not the place for me to discuss this theory, but simply to define my own attitude in regard to it.

I agree perfectly with Professor Waldstein in the general application of his "linear" theory, and accept his views as to the presence of linear motives in the Mycenaean vases,

and as to the Argolic origin of the so-called Proto-Corinthian style. I do not, however, agree with him in his contention that this style can be traced in an unbroken line throughout the Mycenaean period as far back as the earliest primitive vases, nor do I accept the general classification he has already outlined. It is, of course, fitting that in the General Introduction he should have discussed the relation of the Heraeum vase-fragments to the whole excavation and history of the sanctuary. In so far as the work concerns myself, it seems to me more suitable, avoiding general theories as far as possible, to confine myself to a careful classification of the material, omitting those conclusions which, from my unfamiliarity with all the finds of the excavation, would not have as stable foundations as those expressed by Professor Waldstein. The classification adopted here is the result of careful study of the material for three years; and though I am far from claiming that the results reached or the theories expressed are the only ones possible, I have not hesitated to base the whole of this division of the publication upon them, since they have forced themselves upon me from the material. In fairness, therefore, to both Professor Waldstein and myself, I would state that, as I cannot accept his entire theory, it has seemed to me best to abide by my own exposition and leave the decision to the judgment of scholars.

As to the classification, I may say that I have endeavored, as far as possible, to hold by the old rules and to be as conservative as I could; at the same time, such a large amount of new material demanded in many cases an entirely new arrangement. But it must not be forgotten that no classification can be regarded as final; its main object is convenience; and although several groups may be distinguished, they invariably have, in the case of one group succeeding another, their connecting links, and slide into each other almost imperceptibly. On the Lake of Geneva there is a threefold division, the Petit, Grand, and Haut Lacs, each a separate sheet of water; but one can scarcely draw a straight line across the lake and say where the Petit Lac begins and the Grand Lac ends. In the case of our vases, we have the separate classes, but so gradually removed from each other that we can only emphasize the fact of their division, without being too specific as to the actual point.

I have tried to treat the vases from a relative, not an absolute, point of view. Unless it be recognized that the study of Greek vases is a means to an end, not the end itself, their value is lost. They are not among the grand arts; in fact, the scanty references to them in Greek literature show that the vase-painter or potter, while pursuing an honorable trade, could not claim to be an artist in the great sense of the word. It is true that during the earliest periods vase-painting was one of the few forms of artistic expression, but not the highest form. A civilization which could produce the fortresses, the Bee-Hive tombs of Mycenae and Orchomenos, the gold cups of Vaphio, the golden ornaments and sword blades of Mycenae, is not to be measured by mere vases of terra-cotta! Not but that the vases are artistic; whatever work a Greek did was never anything else.

As historical documents they are extremely valuable. They respond to the various influences at work on Hellas from the earliest times, and reflect in a thousand different ways the life and tastes of its people. It is not a lofty idealism we find in them, but a realism in all its forms. Owing to the crude state of plastic and pictorial art throughout the periods to which our vases belong, we cannot place them on a level with Attic vases of the sixth and fifth centuries; but we can see the steady development towards the later, finer forms.

For their presence at the Heraeum, where there was only a temple and not a settle-

ment,¹ there is but one explanation: they were dedicated to the use of the goddess.² In only a few cases has a dedication been scratched on a vase. It is very probable that such offerings were those of the poorer classes, who could afford nothing more expensive than a vase. As the centuries went by, the temple must have become overcrowded with such a mass of pottery, and the presence of numerous rubbish heaps proves that there were periodical cleanings out of the sanctuary. Whether such vases were ever in actual use is doubtful.

From the fact that at the Kabirion in Thebes, potters sat outside the walls of the Temenos and sold their wares, it is probable that such was the fact at the Heraeum, and that from the earliest times the pottery of the Argolid was in great demand, and so cheap and common as to make the introduction of foreign vases rather like bringing "coals to Newcastle."

At first sight the vases from the Heraeum are somewhat disappointing; there is a noticeable lack of strange or beautiful designs, and none of the vases seem to rise above a common level. But the chief value lies, not in the fragments or vases themselves, but in their relation to the results of other excavations, especially those in Sicily and Aegina. It is Aegina that is shown in the closest relation with Argos, since many of the more unusual types found at the Heraeum may also be found in Aegina and nowhere else.

Such a connection forms a valuable contribution to the history of the two states. We know that it was during the reign of Phidon of Argos that the two came together, since Phidon had his mint at Aegina. Phidon's date is variously given — B. C. 770 by Holm,³ 745 by Stais,⁴ while Beloch⁵ asserts that he could not have lived earlier than the sixth century. Whether he really introduced the coining of money into Greece, as tradition relates, is another question. As most numismatists are agreed that this could not have taken place before B. C. 700,⁶ we must either abandon tradition or else side with Beloch. Holm⁷ thinks that he may have introduced Oriental weights and measures into Greece, and thus the introduction of coinage, which followed shortly after, was attributed to him. But the main question does not centre about Phidon so much as about the actual date of the coming together of the two states.

In the recent excavations at Aegina conducted by Stais⁸ fragments of the Mycenaean style were extremely scarce, but large quantities of Geometric and Argive (so-called Proto-Corinthian) ware were found. Moreover, all the Geometric ware found there resembles that from the Heraeum much more closely than that from Attica, and several types occur which can be duplicated only at Argos. It is also most probable that most of the vases of the Geometric and Argive styles found at Aegina were imported, not manufactured there. As Argos, through the Mycenaean as well as the later periods, was one of the chief centres for the manufacture of vases, it becomes almost certain that after the Mycenaean period she exported her wares into Aegina.⁹ Whether Phidon or

¹ Dr. Waldstein believes that there was here a primitive settlement to which primitive cooking-pots, etc., would belong. See General Introduction, vol. i.

² For discussion on this point cf. Cecil Smith, *Naukratis*, I. p. 47; Furtwängler, Introduction to Geniek, *Griechische Keramik*, p. 5.

³ *History of Greece*, I. p. 205.

⁴ *Εφημ. 'Αρχ.*, 1895, p. 236.

⁵ *Griechische Geschichte*, I. p. 282.

⁶ Cf. Head, *Historia Numorum*, Introduction, p. 38.

⁷ *Op. cit.* I. p. 214, Note 3.

⁸ *Loc. cit.* and Pallat, *Athen. Mitt.* XXII. (1897), pp. 265 ff.

⁹ As the question of the origin of such styles as the Mycenaean, Geometric, Argive (so-called Proto-Corinthian), and Corinthian, which are found in Aegina, Argos, and Attica could not be settled with positive certainty from the outward appearance of the fragments themselves, a microscopical analysis of the clay by an expert geologist seemed to offer the only solution of the

some other man was ruler of Argos at that time is not essential to the argument, but it would seem that Holm and Stais are right in considering him king of Argos and assigning to him a date in the first half of the eighth century. That this connection lasted until the sixth century, when the Argives assisted the Aeginetans in repelling an Athenian invasion,¹ the presence of the vase fragments at Aegina would seem to show.

So far as can be judged from the extremely small number of fragments of vases of foreign (i. e. outside of the Argolid) make, such as Dipylon, Early Attic, Corinthian, Cyrenean, Attic Black and Red-Figured, etc., it seems probable that almost all the rest were made in the Argolid. Without doubt all fragments belonging to the Mycenaean style were of such origin. This I judge from the fact that all such vases bear the closest relation to those from Mycenae and show none of the features characteristic of other Mycenaean types

difficulty. Accordingly I sent to Dr. H. S. Washington a number of sherds of the Primitive, Mycenaean, Geometric, Argive (Proto-Corinthian), Corinthian, Black and Red-Figured styles selected from the following sites: the Heraeum, Mycenae, Tiryns, Nauplia, Melos, Attica (Athens, Menidi, Markopoulo, Thorikos), and Eretria. His report is to appear elsewhere, but we may here mention the following facts quoted from Dr. Washington's letter, which were given in reply to the following questions: (1) What is the connection between pottery found at Argos and Aegina? (2) What is the connection between pottery found at Attica, Argos, and other sites?

(1) "The primitive fragment from Aegina is coarse and contains fragments of mica-schist. As this rock is not found on the island, the presumption is that this especial piece is of foreign (i. e. extra-Aegina) manufacture. In the Peloponnesus the nearest localities of these rocks are in the Xiris mountains, and near and south of Doliana towards Sparta; they also occur in Attica. The Geometric fragments of Aegina are coarse with quartz and feldspar grains, possibly derived from schist, but no remains of this or of volcanic rock are visible; it may be native. The two Mycenaean fragments from Aegina are rather coarse, and show fragments of quartz, feldspar, and augite (a mineral of volcanic rocks on the island), so that these are almost certainly of native (Aeginetan) manufacture.

"The Proto-Corinthian and Corinthian fragments from Aegina do not differ in any essential respect from the corresponding specimens of Argos. The Proto-Corinthian are much finer than the Corinthian, and I should say that the Aegina Corinthian are rather coarser than the Corinthian fragments found at Argos.

"Of the Argive specimens, the Proto-Corinthian are by far the finest, though the Corinthian come close to them. A fragment of a 'local type' (v. p. 161, PLATE LXVII.) is also dense, as are two of the red-figure style. A primitive fragment is also quite fine, but shows carelessness in manufacture in areas of coarser material and in the presence of limestone fragments. The fragment of the Geometric plate (v. p. 116, PLATE LVIII.) resembles the corresponding one from Aegina, and may possibly contain a little augite (in very small crystal fragments), which would indicate an Aeginetan derivation. All the Geometric fragments are coarser than the Proto-Corinthian, but the Mycenaean are rather better, though less dense, than the Proto-Corinthian.

"On the whole, the only pottery which is, one may say, undoubtedly Aeginetan is the Mycenaean from there, the Argive Mycenaean being distinctly different. There is practically no difference between the respective Proto-Corinthian and Corinthian, and either might come from any good clay bed, and with the material well washed, which would tend to eliminate all heavy portions such as augite.

(2) "Argive, Attic, etc. The fragments of the Mycenaean style from Mycenae, Tiryns, Daulis, Markopoulo, and Nauplia are all practically identical with that of Argos. The Geometric fragments from Markopoulo and Eretria are coarser and resemble the Geometric from Argos. The only specimen from Athens (Dipylon) is also coarse, and contains much feldspar, an evidence of carelessness in washing.

"The pottery from Melos is quite distinctive in containing fragments of minerals of volcanic rocks of the island, as well as here and there fragments of the rocks themselves, such as obsidian, etc."

"Pottery is made of decayed rocks in which most of the original and distinctive minerals have disappeared, and those left are still further done away by the washing of the clay, so that it would be only in the most early and archaic periods that we should expect to find tell-tale minerals."

Although Dr. Washington's report is somewhat inconclusive, the following conclusions would seem to be justified: (1) That with the exception of a few fragments of the Mycenaean style and the Geometric plate mentioned on p. 116, none of the sherds of the Geometric, Argive (Proto-Corinthian), or Corinthian styles are indigenous to the island, but were most probably imported there. (2) The Geometric fragments from Attica, except the pure Dipylon style, resemble very strongly those from Argos. But these same conclusions do not seem to militate against the theories advanced on pp. 119 ff. and 103 ff., that the Argive (Proto-Corinthian) style originated in the Argolid, and that the earliest beginnings of the Geometric style proper are to be sought for in that locality, although, as stated on p. 104, no attempt has been made to prove that the Geometric style necessarily originated in the Argolid, and was taken up by the other states, but rather that the external influence which probably created the Geometric style first made its appearance in Argos, and penetrated into Attica in a very short time.

¹ Herod. V. 87 ff.; cf. also chapter VII., below.

such as Theran, Cypriote, and those from the various islands. At the same time, the complete absence of the first class, lustrous finish of the Mycenaean style, would seem to exclude Mycenae itself as the only factory. With such a large output of Mycenaean vases there must have existed a dozen vase factories scattered through the plain.

Though it is a point that admits of much discussion, I am inclined to follow Furtwängler and Loeschcke's view that the Dorian invasion proved the downfall of the Mycenaean civilization, and that the Geometric style arose in consequence of this invasion¹ and cannot be traced to the Ionians, Carians,² or Egyptians.³ This point will be further elaborated in the third chapter, but we may anticipate a little. It is only recently that the connection between the Mycenaean and Geometric styles has been satisfactorily established. Wide⁴ has analyzed the survival of Mycenaean elements in the Geometric style and shown how much more the Island types of the Geometric followed the Mycenaean than those of the mainland, but his assumption that, owing to the lack of these Mycenaean features in the Geometric style of the mainland, the centre of the Mycenaean fabrics lay in the islands is not necessarily true, since these same features can be detected in the Geometric vases from the Heraeum.

The recent excavations of Flinders Petrie in Egypt, Cecil Smith and Hogarth in Melos, and Evans in Crete have thrown new light on the beginnings of the Mycenaean style, since a large number of sherds have been found there which, though akin to the Mycenaean, are nevertheless earlier, and have been called "Aegean." These sherds would seem to show a greater tendency towards a naturalistic or pictorial form of ornamentation than towards a linear. As yet the connection between them and the Mycenaean sherds of Greece proper has not been thoroughly established, but it may be assumed that such a connection exists.

The Mycenaean style in Greece proper would seem to show the following development. As Professor Waldstein has already pointed out, the earliest Mycenaean fragments show the embodiment of a Linear principle which would naturally be expected in vases which succeed the so-called "Primitive" style. In a very short time, owing no doubt to the maritime character of the Mycenaean civilization, and more probably to the influence of the Aegean pottery, the tendency to employ a species of pictorial or naturalistic ornamentation, especially of marine life, became widespread.

Later again the spirit of conventionality crept in, and in the last days of the Mycenaean style we find a wealth of ornament treated in a purely conventional and rather flamboyant manner, but without the introduction of any fresh ideas; in fact, the general tendency seems a return to the early Linear feeling. After the Dorian invasion we see this same linear principle marching off in two different styles, the Geometric and the Argive or Proto-Corinthian, which flourished side by side in the Argolid for a considerable period. During the seventh century the increasing commercial and trading facilities brought about the introduction of foreign, especially eastern influences, into Greece, with the result that the Geometric style died out, while the Argive absorbed the new influences, from which the Corinthian style probably had its origin (see p. 123). Attica in the meanwhile, after experimenting largely with the Geometric style, had worked her way into the Early Attic style, and after absorbing the Oriental influence from Corinth through the so-called Corinthian-Attic, evolved the Black-Figured style which, during the best part of the sixth century, was the most prominent form of Greek ceramic art.

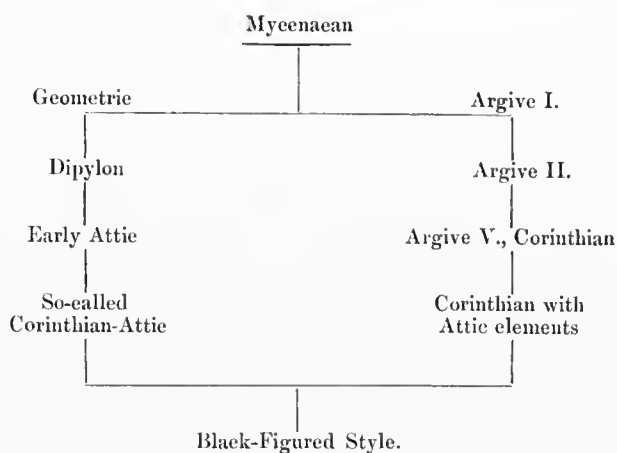
¹ *Myk. Vas.* p. xii.

² Rayet and Collignon, *Hist.* p. 32.

³ Kroker, *Jahrb.* I. (1886), pp. 95 ff.

⁴ *Athen. Mitt.* XXII. (1897), pp. 233 ff. and XXI. (1896), pp. 385 ff.

A glance at the accompanying figure shows the way in which this development took place, and how the elementary principle, starting from the Mycenaean style, and working its way through two separate channels, united again in the Attic Black-Figured style.



It cannot, of course, be said that the progress traced above is absolute, nor can it be worked out exactly with mathematical precision. It is the result of a careful study of the progress of ceramic art as illustrated by the two great centres of Argos and Athens, with especial reference to the vases from the Heraeum. To trace the development of ceramic art in any given place is, after all, largely a matter of theory, and though I do not wish to maintain that the theories of development here expressed are the only ones possible, it is upon them that the whole of this work is based.

As the term "Proto-Corinthian" is now so thoroughly unsatisfactory, I fully agree with Professor Waldstein that it should be abandoned, and that, as the Argolid offers greater claims for being the home of this style (as I shall endeavor to show later), it is best to call the style Argive. But, as stated before, the use of the term in this part of the publication is rather more restricted than that employed by Professor Waldstein, since it is here used entirely with reference to those vases which are post-Mycenaean, and does not include all the varieties which Professor Waldstein would include under the title of "Argive Linear."

CHAPTER I.

PRIMITIVE VASES.

THE pottery representing the "primitive" period, i. e. all pottery (prior to the Mycenaean civilization) which shows the employment of the usual incised linear decoration, so common on the various sherds in the lower settlements of Hissarlik, is rather scarce at the Heraeum. For this fact two explanations are possible: (1) As we have pointed out before, a large number of fragments, without decoration of any kind, wheel or hand made, which might well belong to vessels of the earliest periods, were not preserved, since there was no evidence of any kind to show what their age was. (2) Sites in which such ware has been found in greatest quantities, such as Hissarlik, Tiryns, Thera, etc., were all settlements where the pottery was in actual use by the inhabitants. The Heraeum was a sanctuary and not a settlement; and as the cult of Hera was probably not developed until the Mycenaean period, the custom of dedicating pottery would not have been general, and hence we should not expect to find many primitive sherds on the site. If, however, there had been here an early settlement, vases would have been in constant use, and would therefore not have been found in large quantities, as where in a sanctuary only there were constant deposits of votive offerings in vases.

Of the plain pottery already mentioned in the Introduction, a great number of fragments seem to have belonged to large *pithoi*, similar to those at Hissarlik. Such large vases, of coarse unpainted clay, are characteristic of all periods, and may just as well fall in the later as in the earlier Greek times. Many of them, in fact, are not dissimilar to common pots used by the people of Greece to-day.

The bulk of this "primitive" ware consists of fragments of yellow or reddish clay with incised ornamentation, only a few vases being preserved entire. Most of the fragments are hand-made; but as wheel-made ones are found, no general law can be stated for the use of the wheel. It is probable that some of the wheel-made prehistoric fragments are older than hand-made Mycenaean vases. Beside the fragments already mentioned, a large number of very coarse wheel-made fragments were found, decorated only with a series of incised parallel lines very close together, evidently made by some pointed instrument held against the clay as it revolved on the wheel. To date them is impossible; the nearest analogies may be found in Phoenician ware in the British Museum and the Louvre.¹

Not more than two baskets of the total number contained sherds with incised decoration, and it was extremely doubtful in the case of many of the fragments whether they could with propriety be classed among the primitive vases. Some, by their similarity to the vases from Hissarlik, the tumulus at Bos-öyük in Asia Minor (Koerte, *Athen. Mitt.* xiv. (1899), pp. 1 ff., pls. i.-iii.), and the Cyclades (Tsountas, *Ἐφημ. Ἀρχ.* 1898, pp. 137 ff., pls. ix., x.) seemed to belong to the last of the third or the beginning of the second millennium B. C. Probably none of them are earlier than the second settlement at Hissarlik, and the majority contemporaneous with the sherds of the third, fourth, and fifth settle-

¹ Pottier, *Vases Ant. du Louvre*, pl. iv. fig. 2.

ments. Some, again, though essentially primitive in their technique, show Mycenaean and Geometric elements without seeming to belong to either style.

No attempt can be made to give anything but an approximate date to the fragments of the primitive period from the Heraeum. As the primitive vases from the Cyclades furnish the nearest parallels to many of our fragments, we may date them as Tsountas does the island tombs, B. C. 2500-2000; those which show a more advanced style of decoration may be placed in the first part of the second millennium B. C.; but it is doubtful if any of our fragments to which the term "primitive" can be applied are later than the beginnings of the Mycenaean civilization.

FRAGMENTS.

PLATE L.

1. Bright red clay, fairly fine. Wave pattern between bands. Cf. *Ilios*, figs. 298, 317. Koerte, *loc. cit.* pl. iii. 19.

2. Coarse dark yellow clay with small black stones, hand-made. Probably part of amphora. Handle missing. Decoration of small circles, evidently done with some instrument like a punch. To left of the handle, breast-like protuberance.

3. Reddish clay. Hand-made. Same decorations, large circles. Cf. *Ilios*, fig. 162.

4. Top of oinochoe, of fine dark reddish clay. Same decorations with very small circles, which extend over the lip.

Fragments of this type were common at the Heraeum. They possess, however, no affinity with the sieve vases from Troy, as the circles do not go clear through.

Two variations in the type occur; (1) where the circles have a central part left (as in **2**) and (2) where the circle is a complete hole. (3) Similar decoration occurs on ivory objects from Troy (*Ilios*, p. 566), as well as from the Heraeum, and on fragments from graves of the Hallstatt period in Vienna.

Nos. **5-8** are all of a yellow or reddish clay, hand-made and ornamented with scratched lines. Similar fragments were quite numerous at the Heraeum, and probably belong to the earliest period. The plastic band on **5**, with its perforated ornament, is a common feature in prehistoric ware.¹ Cf. Schliemann, *Ilios*, p. 491, fig. 454.

9. Low bowl; height 0.27 m.; diameter 0.17 m. Reddish clay. Incised dots on outer edge of base. Rim has an incised herring-bone pattern. Two holes through edge of base.

10. From shoulder of large vase, coarse reddish yellow clay. Ornamentation probably ran round the shoulder like a frieze.

11. Handle of vase, coarse reddish yellow clay, hand-made. Plastic ornament resembling the knuckles of a hand.

12. Same. Coarse, dark reddish clay, hand-made; probably burnt. In plastic form, with four divisions, two large and two small.

Several other similar handles, belonging to large amphoras were found, which vases, as far as can be told from the fragments, possessed no decoration whatsoever.

13. Handle, reddish yellow clay, ornamented with a series of V-shaped incisions. Cf. *Ilios*, fig. 1000.

14. Reddish clay. Wave patterns incised in similar fashion to **1**. In left-hand corner of the fragment a projection like a button.

15² **a** and **b.** Bright red clay, hand-made. Base of tall jar. Around bases plastic mould-

¹ This would seem to be one of the earliest examples of a snake, which, though common in Mycenaean and later times, is probably not of Mycenaean origin; cf. *B. C. H.*

xxii. (1898), p. 441, note 1; *B. C. H.* xix. (1895), p. 179, note 6.

² A fragment very similar to No. 15 has been found by Wide at Aphidna (*Athen. Mitt.* 1896, pp. 394, 407, pl.

ing with scratches. Above, narrow band of triangular indentations and two bands of ray pattern, incised. The same triangular indentations occur on a fragment from the Cyclades 'Εφην. 'Αρχ. 1898, pl. ix. 10 and 23.

The following fragments are all wheel made, and belong certainly to a later time, probably just prior to the beginning of the Mycenaean period.

16. Greenish yellow clay. From base of a vase with tall foot. Double herring-bone pattern and lines, incised.

17. Greenish-yellow clay, from vase similar to **16**. Rays and bands incised.

18. Reddish clay, inside entirely covered with a dark brown glaze. Rays and scratches incised.

As the technique of this fragment is distinctly Mycenaean and rather advanced, it seems most probable that it should fall in that period.

19. Light yellow clay, probably from an aryballos. Herring-bone pattern and lozenge containing a *swastika*, incised.

20. Bright yellow clay, with black core. From neck of a vessel. Three raised bands, cross-hatched, inclosing two bands, upper with rosettes and herring-bones, lower with herring-bones alone.

21. Reddish yellow clay. From neck of aryballos. Plastic tongue pattern on shoulder.

The technique of **19-21** is decidedly more advanced than that of the other fragments. At the same time it is open to question whether, with the possible exception of **21**, they can be regarded as later than the Mycenaean period.

VASES.

- 1.** (Fig. 1.) Three-legged bowl, two of the feet restored. Hand-made; height, 0.092 m.; diameter of opening, 0.08 m. Black clay with brick-red slip, burnt dark brown. Scratched ornamentation on rim, neck, and belly. The handle is divided into two twisted divisions, also ornamented with scratches. On the front, two breast-like protuberances.



FIG. 1.

This arrangement of scratches is similar to that of 'Εφην. 'Αρχ. 1898, pl. x. No. 1, but not so regular, and is undoubtedly earlier. The shape is similar to *Ilios*, Figs. 59 and 1130. (Cf. also Koerte, *loc. cit.* pl. ii. 9.) Such vessels have usually been classed among cooking-pots.

- 2.** (Fig. 2.) Vase with long neck, without handle; height, 0.07 m. Black clay, polished and burnt. The shape of our vase is similar, though a trifle more advanced, to a vase from the same place. Cf. Koerte, *loc. cit.* pl. ii. 8.



FIG. 2.

The polishing of the clay is a common feature among primitive vases. It may be observed on a large number of vases and sherds from Hissarlik, and also on the vases from Bos-öyük. Cf. Koerte, *loc. cit.* p. 25.

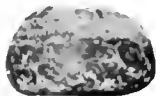


FIG. 3.

- 3.** (Fig. 3.) Oinochoe? Neck and handle missing: height, 0.025 m. Black clay, burnt, with incised border on shoulder. Shape of vase cannot be determined, but it rather recalls the latter oinochoe type. Similar decoration may be found on a Trojan vase of the fourth settlement. Cf. also, 'Εφην. 'Αρχ. 1899, pl. ix. 24.

xv. 3), and assigned by him to his early indigenous Geometric class. This would seem significant for dating our fragment, and also for showing that the pre-Dorian ele-

ments in the Geometric style in Attica are to be found in the Argolid. This point will be discussed more thoroughly in Chapter III.

Further, about twenty very small hand-made vases were found, which had no decoration, but were uniformly of a dark gray or reddish clay, showing traces of burning. They included two-handled vessels, similar to 'Εφην. 'Αρχ. 1898, pl. ix. 2, and Koerte, *loc. cit.* pl. ii. 7; several three-handled jugs of similar shape to those on p. 100, and a vase without handles, similar to Koerte, *loc. cit.* pl. ii. 9.

A series of vases, which, though not prehistoric in character, seem more nearly related to the earlier than the later vases, is represented by 4-6. They are all of a very dark clay, hand-made and burnt black in most cases, some with a decoration of incised lines running from neck to foot, others without decoration, and chiefly remarkable for a very brilliant polish, giving nearly the effect of dull jet. These vases are very similar to several from Rhodes in the British Museum, and it may be questioned whether our vases are not as are those, a product of the eighth century. At the same time, owing to their scratched ornamentation, they are more fitly included in this chapter, and if of a later date are probably the last links of the chain begun in prehistoric times.

4. (Fig. 4.) Aryballos; height, 0.045 m. Black clay, burnt, with decoration of parallel lines. Much of the outer surface worn off.

Several others were found at the Heraeum. An aryballos precisely similar is in the British Museum (A. case 6, No. 658, from Rhodes).

5. (Fig. 5.) Aryballos; height, 0.034 m. Black clay, with very brilliant polish. Below handle parallel scratches and a figure shaped like a bow or a crescent.

6. (Fig. 6.) Oinochoe; height, 0.045 m. Black clay, polished and burnt, without ornamentation. Several similar jugs were found.



FIG. 4.



FIG. 5.



FIG. 6.

CHAPTER II.

THE MYCENAEAN STYLE.

THE development of the Mycenaean style at the Heraeum finds its parallel in the Mycenaean fragments from Mycenae and Tiryns. But unfortunately the Heraeum fragments throw no light on the question whether the Mycenaean style is of Achaean (as is usually supposed), Pelasgian (cf. *J. H. S.* XVI. [1896], pp. 77 ff.), or foreign origin. That prototypes of the Mycenaean style exist in the Aegean pottery is now, I think, generally admitted, and it may well be the case that the beginnings of the civilization are to be looked for in the Aegean islands, especially Crete. The connection, however, between the Mycenaean ware at the Heraeum and the Aegean pottery is not easy to establish; the earliest elements of the style in the former site are, as Professor Waldstein has pointed out, distinctly linear in character; and that, as far as I can judge from the island pottery I have seen (e. g. Melos), does not seem to be the case in Aegean pottery. If anything, the characteristics of the Aegean pottery are more naturalistic than linear. Perhaps the most probable explanation is that the Mycenaean style in the Argolid developed directly from the primitive linear types, and that the influence of the islands brought about the change to naturalistic forms of ornamentation.

The two great classes of the Mycenaean style, vases with dull decoration (*Mattmalerei*) and with lustrous decoration (*Firnissmalerei*), are both represented at the Heraeum, the former in very small quantities. Although it is usually supposed that "dull" vases are

older than "lustrous," certainty on this point is impossible. The character of the dull style is linear and as such more in keeping with the prehistoric motives; also as the invention of a lustrous glaze is a distinct innovation in ceramic art, it is probably an improvement on the "dull" technique. But that the manufacture of dull vases continued almost as long as that of lustrous vases, is proved by the fact that both dull and lustrous fragments lay side by side in the same levels.

VASES WITH DULL DECORATION.

Four small vases (to be described later) and about fifty fragments of this style were found, none belonging to very large vases. To establish a classification with a material so scanty and unsatisfactory is impossible. Furtwängler and Loeschcke divide this type into two classes: (*a*) vases made of red clay ("Rotthonig") and (*b*) vases of pale clay ("Blassthonig"). Such a classification in the case of the Heraeum fragments proved impossible, since the clay ran through the various shades of red, yellow, gray, and green, and no vital difference in the decorative forms of fragments of red or pale clay could be distinguished, and the polish, according to Furtwängler and Loeschcke, a characteristic feature of class *a*, was noticeable only on vases of pale clay.

It is true that the majority of our dull fragments show a decoration decidedly linear in feeling, and also that some show a pictorial or naturalistic decoration very similar to vases of the lustrous style. That the first are the earlier of the two seems probable. At the same time the difference is not so great as to warrant our assigning the fragments to different classes, since many fragments bearing linear motives may well have belonged to vases which also showed pictorial ornamentation and *vice versa*. The classification of fragments alone is far more unreliable than that based upon entire vases. Hence, in the case of "dull" fragments, no attempt has been made to separate them into two classes, though they have been arranged with a view to the character of their ornamentation, be it linear or pictorial.

Only the most important fragments are shown in PLATE LI. There were many which bore no decoration, though clearly belonging to the same vases as some of the fragments here reproduced; many again bore only a part of a band or stripe running around the belly. A certain difference can be detected in that in some of the fragments the clay is covered with a fine slip and in some not. The majority of the fragments show this feature, which seems to have been a characteristic of the style from its beginning, since even those vases with the simplest linear decoration show it. As it runs through all the shades of clay, it offers no ground for classification. The polishing of the surface seems to have been the general custom. The clay runs through all varieties and colors, from a very coarse variety with black stones still apparent on the surface to extremely fine clay, cleaned and polished. The majority of the vases and fragments were made on the wheel, though a few are hand-made.

FRAGMENTS.

PLATE LI.

1. From bowl with large opening. Form, *Myk. Vas.* XLIV. 48: height, 0.165 m.; width, 0.125 m. Coarse pale greenish clay, polished on outside and inside. On inner part of rim series of three short parallel dashes. Decoration in black, faded. Cf. *Myk. Thong.* iv. 17.

2. From one-handled-cup. Form, *Myk. Vas.* XLIV. 98: width, 0.118 m.; height, 0.068 m.

Coarse brownish yellow clay with whitish yellow slip on exterior. Dashes on rim similar to **1**. In rim hole pierced for suspension. Black decoration.

3. Lip and handle of bowl similar in shape to **1**: width, 0.112 m.; height, 0.095 m.

4. Neck and shoulder of jug. Form, *Myk. Vas.* XLIV. 20: height, 0.105 m.; width, 0.125 m. Coarse reddish yellow clay; yellowish slip with decoration in violet brown. Cf. *Myk. Thong.* IV. 13.

5. Reddish yellow clay, fairly fine in texture. Pale slip on exterior with violet black decoration. Cf. 'Εφην. 'Αρχ. 1899, plate viii. 104 (vase from Syra).

6. Neck and shoulder of jug similar to **4**. Fine reddish clay with greenish yellow slip.

7. Fairly fine pale reddish clay, dull polished surface. Three narrow black bands inclosing a dark red zigzag, and a broader band of dark red; traces of another zigzag also in dark red. This fragment is almost identical with *Myk. Thong.* v. 20.

This use of two different colors, one (in this case the red) added after the first firing, is an extremely common feature in the Heraeum fragments, and will be analyzed more thoroughly in a later chapter. No. **7** was the only fragment of the dull finish which showed its employment.

A few fragments of a very dark red clay with a dark red slip on exterior and interior and black decoration were found. They are in all respects similar to the vase from the Bee-Hive tomb near the Heraeum. Cf. *Myk. Thong.* XII. 52; *Athen. Mitt.* III. p. 271.

8. Neck, shoulder, and base of handle, probably from an amphora. Fine greenish clay, polished, with light brown decoration.

9. From large bowl, similar in form to *Myk. Vas.* XLIV. 75, but with single handles, about 25 cm. in height and 24 cm. in diameter. Coarse reddish clay, which has received a very high polish and presents a peculiar soapy feeling to the touch. Zigzag band below rim in dark red, very much faded. (Fig. 7.)

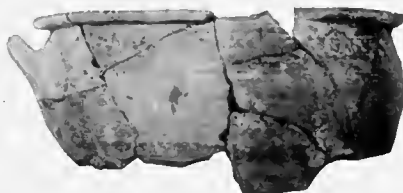


FIG. 7.

A few other vases and fragments from the Heraeum showed this same peculiar surface, which otherwise is unknown to me. It is probably due to some accident either in the composition of the clay or the peculiarity of the soil in which it is found.

10. Coarse brownish clay with white slip outside. Violet brown decoration.

All these fragments show a decided "linear" tendency; the rest (**10-16**) are more naturalistic in character. The similarity of decoration in **14-16** to vases of the lustrous finish would warrant our assigning them to a later period. They evidently do not belong to the earliest essays in dull decoration.

11. Shoulder and handle of small three-handled amphora (form *Myk. Vas.* XLIV. 35), with brown black decoration.

12. Rim and spout (broken off) of a bowl, similar in shape to *Myk. Vas.* XLIV. 103. Very coarse brick red clay, with a pale white slip on exterior and interior. Decoration in black, laid on heavily and badly worn.

13. Shoulder of small jug. Similar technique to **11** and **12**.

14. Spiral in black.

15. Rim of bowl. Fine brick red clay, with bright yellow slip, highly polished; decoration in violet brown.

This fragment, from the excellence of its technique, as well as the form of the spiral, is clearly synchronous with vases of the best period of the lustrous style.

16. From bowl similar to **15**. Greenish clay, with brown decoration. Technique similar to vases of the later (not the best) lustrous style.

VASES.

17. (Fig. 8.) Height, 0.06 m.; diameter, 0.07 m. Bowl with high foot, being a cross between a kylix and a skyphos, one handle missing. Bands and a continuous spiral.

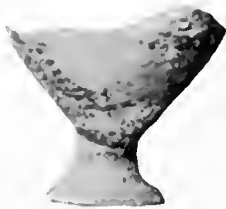


FIG. 8.

Another vase of exactly the same shape and dimensions, but intact, was found in the same tomb. The surface is completely covered by a hard incrustation of lime, but as far as can be seen the decoration is the same as 17.

18. (Fig. 9.) Height, 0.028 m.; diameter, 0.066 m. Slight variation of *Myk. Vas. XLIV. 87*. Bands on rim, belly, and handle, and row of dotted semicircles.



FIG. 9.

19. (Fig. 10.) Height, 0.036 m.; diameter, 0.056 m. Three-legged bowl, handle restored. Continuous spiral on sides, and on bottom between the legs a design like an S reversed. Clay shows traces of burning.



FIG. 10.

These four vases come from the grave found April 13, 1894, back of the peribolos wall above the South Stoa. The technique is the same in all, a fine yellow clay, highly polished, without a slip, the decoration in violet black, laid on heavily. All are hand-made. For photograph of tomb see vol. I. p. 41, fig. 13.

VASES WITH LUSTROUS DECORATION.

The introduction of lustrous paint in the manufacture of Mycenaean vases was revolutionary in its effects. Henceforth all vases exhibit this feature. But as we have said, on its introduction the dull finish was not at once abandoned, but continued side by side with the lustrous technique for a considerable period; just how long it is impossible to say, but certainly until after the best period of the lustrous style.

Until lately Furtwängler and Loeschke's division of the lustrous style has been universally followed. This classification has, however, proved inadequate for our vases, and for those from the Acropolis and Thoricus. A second classification,¹ proposed by Wolters, is more satisfactory, and has proved a better standard for arranging ours. But in spite of its many advantages, it is somewhat unwieldy, so that I have ventured to adopt a middle course, in order to reconcile both Furtwängler and Loeschke's and Wolters' arrangements. The three are here presented side by side.

FURTWÄNGLER AND LOESCHKE.

I.

Wheel-made vases of a very coarse clay, entirely covered with a fairly dull black slip, on which the ornamentation is thinly laid in white and dark red.

This class was chiefly found in graves iv. and v. at Mycenae, at Tiryns, and at Thera.

WOLTERS.

I.

The same. Only a few fragments of this style were found on the Acropolis.

HOPPIN.

I.

The same. This class is not found at the Heraeum at all.

¹ This classification has never been published, so far as I know, and has been drawn from the author's lectures.

II.

Vases of coarse clay, covered with a thin slip of finer clay, now white (in the case of vases from the Bee-Hive tomb near the Heraeum), now yellowish brown. (v. *Myk. Thong.* VII. 42; *Myk. Vas.* p. 21, fig. 7.) The decoration is painted on this slip in dark brown, with the occasional addition of white, as if an echo of the technique of the first class.

II.

No radical change. The main point of difference lies in the close connection between II. and the following class, which varies from it only in the quality of the work. The style throughout is distinctly a naturalistic or pictorial one, there being no thought of conventionality. The vase from Thorikos is an extremely good example of the class as a whole.

Cf. 'Εφημ. 'Αρχ. 1895, pl. xi. No. 1.

II. 1 and 2.

In the first division of II. have been included all vases which in the other two classifications are counted as II.

In the second division are included a number of vases belonging to Furtwängler and Loeschke, III., and Wolters, III. 1.

III.

Fine cleaned clay, with a polished surface of warm yellow color. The colors in the decoration run through all shades from yellow to dark brown. This, through action of fire, becomes bright red in many cases, which, especially in vases of the finest technique, is evidently intentional. Details are occasionally added in white.

III. 1.

Fine clay, with purely pictorial ornamentation, precisely similar to II., save that the execution is more delicate, which is natural, seeing that the vases are uniformly smaller.

2.

The pictorial motives have become conventionalized. In proportion, however, the technique has also advanced and reaches its highest point in this division, and may easily be detected by the extreme fineness of clay and extraordinary brilliancy of the glaze. This class is not the most common of the Mycenaean styles.

III.

1.

Seeing that vases of this class differ from the succeeding one only in superiority of technique, while the principle of ornamentation remains the same, there seems to be little gain in separating them by the boundary line of a class.

2.

In this division are included those vases which form the bulk of III. of Furtwängler and Loeschke. They are the most common at the Heraeum. The clay has become inferior and the lustre duller, while the ornamentation has become conventionalized in the extreme, and presents a certain mechanical air. It is only in its technical features that it differs from class III. 1.

IV.

The surface of the clay is greenish or a somewhat dull yellow, occasionally reddish yellow, but far duller than the preceding class. The decoration is black or yellowish brown, occasionally burnt red, but never attains to the brilliancy of vases of class III. In the case of vases with a wide mouth, the interior is always glazed.

IV.

1.

In this division are placed those vases included by Furtwängler and Loeschke in III., and by me in III. 2.

2.

In this division fall all vases in IV. of Furtwängler and Loeschke. Vases of this type show a more florid and perhaps decadent style of decoration. The ornamentation abounds in a wealth of detail not seen in the other classes. It has been found in fairly large quantities at Athens, on the Acropolis, and at Aegina and Thoricus.

IV.

This class remains undisturbed as in Furtwängler and Loeschke. Only a few fragments were found at the Heraeum.

It may be noticed that in Professor Wolters's classification the separation of Mycenaean lustrous vases into two great periods is hinted at, if not expressed. We may commence by drawing a sharp line between the pictorial and the conventional, since the progression from naturalism to conventionalism is a greater one than from one plane of technical skill to a higher. We may therefore keep Furtwängler and Loeschke's four classes and separate them into two groups, I. and II., III. and IV. It will thus be seen that dividing III. and IV. into two classes each, as Wolters does, and connecting III. 1 with II., and III. 2 with IV. is somewhat awkward. Also the line between naturalism and conventionalism is not properly emphasized, since they occur in the same class, which is clearly impossible if we are to follow a classification based on ornamental development. By separating II. into two divisions we adhere to the close connection emphasized by Wolters while confining the principle of naturalism to one class.

With III. we enter upon the second or conventional group, and we divide this into two classes, III. 1 and III. 2, which correspond to Wolters's III. 2 and IV. 1. Their connection is too strong (the difference between them being purely technical) to warrant their being separated as they are by Wolters, while at the same time we are more in accord with Furtwängler and Loeschke, except for the transferring of a small part of their class III. to II. There seems to be no valid reason for separating IV. into two groups. Certainly the difference between IV. 1 and IV. 2 (Wolters) is as great, both from a technical and ornamental standpoint, as between III. and IV. (Furtwängler and Loeschke).

The following table will show briefly the results thus obtained: —

FURTWÄNGLER AND LOESCHKE.

I.
II.

III.

IV.

WOLTERS.

I.
II. }
III. 1 }
III. 2 }
IV. 1 }
IV. 2 }

HOPPIN.

I.
II. 1 }
II. 2 } Naturalistic or pictorial style.
III. 1 }
III. 2 }
IV. } Conventional style.

What the chronological differences are between these various classes it is difficult to say. According to Furtwängler and Loeschke, I. is the oldest; but it is extremely doubtful whether any difference in time exists between I. and II. As I. is found in but few other places outside of Mycenae, it is fair to suppose that it was a style more or less local. Judging from the entire lack of this class at the Heraeum, and the fact that the style of ornamentation of II. 1, which is the oldest class of lustrous vases at the Heraeum, is practically identical with that of I., there seems good reason for supposing that the two are synchronous.

Moreover, the difference between II. 1 and the dull vases is so extremely slight that it can be detected only by a carefully trained eye, and even then cases occur where the decision is doubtful. This would show that the lustrous technique at the beginning did not differ materially from the dull, and is another point in favor of assigning II. 1 to the beginning of the lustrous style.

II. 2 differs from II. 1 mainly in the technical advance, but this advance is sufficiently apparent to enable us to see in II. 2 the successor of II. 1. The step between II. 2 and III. 1 is even greater, since the style of ornamentation has radically changed, and all motives which II. drew from the marine life that played so great a part in the maritime civilization of the Mycenaean epoch have become conventionalized and are used more with a view to their decorative effect than as an attempt to reproduce nature. Such a change could have come only during the acme of the Mycenaean epoch.

With IV. we see the point to which the bad taste of a decadent art had come. The wealth of ornamentation, elaborated from a given motive, with the introduction of foreign motives, illustrated by "Heraldic" designs and those taken from Oriental embroideries, may be accounted for by this rampant spirit of conventionalism combined with the increased commercial activity of the age.

A few words may here be said as to the latest results in dating the whole Mycenaean period. Through the numerous excavations recently conducted on Greek soil, and the corresponding increase of Greek pottery brought to light, the chronology has been worked backwards to the fourteenth century. But the excavations of Flinders Petrie¹ in Egypt, and the finding, in the towns of Illahun, Tel-el-Amarna, Kahun, and Gurob, of rubbish heaps containing large masses of "Aegean," i. e. Mycenaean pottery, may be said to have absolutely established the date of the Mycenaean civilization, since the objects of Egyptian workmanship lying in these rubbish heaps, along with the pottery, can be dated not later than this eighteenth dynasty, *circa* B. C. 1450. Pseud-amphoras of Class III. were found in tombs of a date not later than B. C. 1300. The placing of the acme of the Mycenaean period during the fifteenth century thus accords with the hypothesis advanced by Furtwängler and Loeschke on the basis of Egyptian wall paintings.² As Class IV. was not found by Petrie, we may assume that it is later than B. C. 1300; but there is no reason for assuming that the manufacture of Class III. ceased after that date. We must also allow at least a hundred years for the development of the Mycenaean style from its beginning, so that to place the manufacture of dull vases as early as the sixteenth or seventeenth centuries is permissible. We thus obtain a period of about five

¹ For a more detailed account of Petrie's results, v. *Illahun, Tel-el-Amarna, pp. 16, 17, pls. xxvi.-xxx.*; *Illahun, Kahun, and Gurob, p. 10, pls. xvii.-xxvi.*; *Kahun, Gurob, and Hawara, pl. xxviii.*

² *Myk. Vas.* p. xiii.

centuries from the rise of the Mycenaean style to its downfall at the time of the Dorian invasion, or whatever the upheaval was which led to its decline.

That all the vases of the Mycenaean style found at the Heraeum were manufactured in the Argolic plain, and not imported from some other centre, seems unquestionable. Whether the Argolid was the chief centre of the Mycenaean civilization or not cannot be absolutely affirmed, though the evidence seems to point to this supposition. At any rate, the amount of vases found at Mycenae, Tiryns, Nauplia, and in the various tombs throughout the plain, is so great that we can safely assert them to be of home manufacture. That Class I. is found at Mycenae and not at the Heraeum may perhaps be accounted for by a difference of taste in the two places. The Heraeum, which was one of the largest sanctuaries in Greece, must have kept several potters' factories busy to supply the faithful with the requisite vases for *ex votos*, and that certain styles should have been popular there and others not so is not extraordinary.

Several facts may be noticed in regard to our fragments which are significant. The singular uniformity of all the fragments of the Mycenaean style, both in clay and technique; the complete absence of Class I., and, lastly, the equally complete absence of any foreign variations (e. g. Theran, Melian, Cypriote, etc.) of the regular Mycenaean types. These facts would seem to indicate: (1) That the potteries which produced the ware found at Mycenae were not the same as those which produced our fragments; had such been the case it is scarcely credible that no traces of Class I. should have been found. (2) That all Mycenaean pottery found at the Heraeum was the product of one or more particular centres of activity, situated near the sanctuary. (3) That this manufactory reserved its wares exclusively for home consumption, and neither exported its product or imported similar wares. This last assumption is based on the fact that those particular varieties which are indigenous to some foreign spots are hardly represented at the Heraeum, and the few exceptions to this rule are probably accidental. On the other hand, no Mycenaean vase found outside of the Argolid can be proved to have been manufactured near the Heraeum.

CLASS II., DIVISION 1.

Of this class only a few dozen fragments were found, and no whole vases. Only a few fragments clearly belonged to the same vases, and the reconstruction of any vase proved impossible. The characteristics of these fragments are similar to those of a jug in Athens (*Myk. Vas.* p. 49, fig. 29) and a three-handled vase from Thoricens ('Εφην. 'Αρχ. 1895, pl. xi. 1), though the decoration is extremely simple and monotonous, with no attempt at any elaborate design.

Only a few of the fragments are here reproduced. The technical features are: very coarse quality of clay, with frequent small stones, varying through the different shades of red and brown to green; a thin wash of white, yellow, or red; ornamentation in violet, brown, or red.

1. (PLATE LI. 17.) From belly of vase, form uncertain. Dark red clay, with a darker central core, and light red wash, dark red decoration. Two fishes advancing towards a monster of some sort whose head and forelegs alone are visible. To identify the character of the fishes or the monster is impossible. Cf. *Myk. Vas.* x. 63, xxxix. 401a; Schliemann, *Mycenae*, Fig. 317; Imhoof-Blumer and Keller, *Tier und Pflanzenbilder*, vi. 47, 48, vii. 3.

2. (PLATE LI. 18 a-d.) Four fragments from same vase, form uncertain, clay dark red,

white wash, with faded violet brown decoration. The design cannot be restored, but that the spiral formed part of it is certain.



FIG. 11.

3. (PLATE LI., 19 a and b.) Two fragments of same vase. Thick brown clay, yellow wash, brown decoration. Flower pattern.

4. (PLATE LI., 20.) Greenish clay and wash, violet black decoration, with a greenish tinge. Flower pattern.

5. (PLATE LI., 21.) Brown clay, with yellow wash.

6. (Fig. 11.) Fragment of large amphora: height, 0.108 m.; width, 0.12 m.; very coarse brick red clay, pale reddish wash, dark red decoration. (Flower pattern.) The height of the amphora cannot be determined, but the opening measured certainly 13 cm. in diameter. Cf. *Myk. Vas.* XXI. 156.

CLASS II., DIVISION 2.

The fragments of this particular class were far more numerous than those of the preceding, and are uniformly of a finer character, though the pictorial style of ornamentation remains the same. They represent throughout smaller vases. The clay is of a better quality, carefully cleaned, running through all the shades of red, brown, yellow, and pale green, the decoration generally red or brown. The technical method is the same in all. Over the natural clay a slip is laid, of very fine red or yellow clay, on which the design is painted and the surface polished. In some cases the slip is on the interior as well. Occasionally the decoration is laid on so thickly as to stand out from the surface of the clay, and be easily friable. Cases occur where a whitish wash has been applied, as in Class II., 1. Fragments which resemble this class very strongly have been found in the Bee-Hive tomb near the Heraeum, already referred to.

In only a few cases were fragments clearly part of the same vase and no entire vases were found. The style of ornamentation is uniformly naturalistic or pictorial, the motives being taken almost exclusively from flowers, while marine subjects are hardly used at all. In but a few instances can the form of the vase be determined.

PLATE LII.

1 a and b. Two fragments from the same vase, form uncertain. Reddish clay, yellow slip, red brown decoration. Flower wreath. a is perhaps the best example of Class II. 2 at the Heraeum. Fragments very similar have been found in Crete; v. Haussonnier, *Rev. Arch.* XL. (1880), p. 359, pl. xxiii., and more recently by Evans at Cnossus. Cf. *Arch. Anz.* 1900, p. 149, fig. 6. Cf. also *Myk. Vas.* p. 23, fig. 12, and the fragments from the Bee-Hive tomb near the Heraeum: *Myk. Thong.* XII. 64; cf. also *Myk. Vas.* XXVII. 213, 217; *A. J. A.* VI. (1890), pl. xxii.

2. Reddish yellow clay, brilliant red brown slip, red brown decoration. Two other small fragments from the same vase were found. This fragment is an exact duplicate of one from the Bee-Hive tomb; v. *Myk. Thong.* XII. 57.

3. Similar to 1 but slightly coarser clay, slip, and flaky decoration. Probably part of shoulder of a three-handled vase (form, *Myk. Vas.* XLIV. 32). A similar smaller fragment, but from a different vase, was also found.

4. Yellow clay, flaky black decoration. Cf. *Myk. Thong.* XII. 60.

5. Yellow clay, brilliant black decoration.

6. Double flower. Cf. *Myk. Thong.* XII. 73; *B. C. H.* X. (1886), pl. iii. 5.

7. Rim of small bowl. Flower; similar technique to 2.

8. Black border to stalks, changing to red in the centre.

9. Whitish wash on exterior, with red brown glaze on interior.
10. Part of a plate, with branches on the reverse similar to **12**. Clay has a peculiar ribbed surface.
11. Decoration ranging from brown to red. Presents same ribbed surface as **10**.
- 12 a and b. Two fragments from a vase of clay and technique similar to **8**. Cf. *Myk. Vas.* p. 58, fig. 34.
13. Rim of a large bowl. Clay rather coarse.
14. Grayish clay, evidently burnt. A few other fragments of similar technique and decoration were found. Cf. *Myk. Thong.* III. 10; *Myk. Vas.* XXI. 153, XXVI. 195.
15. Flower pattern in dark red. Polish on exterior and interior.
16. The same.
17. From shoulder of three-handled vase. Arrangement of petals similar to **1**. Cf. *Myk. Vas.* XXXVI. 376.
18. Dark core in the clay. Decoration in red.
19. From a vase of form *Myk. Vas.* XLIV. 59, probably. Whitish yellow slip. Cf. *Myk. Vas.* XIII. 89.
20. Combination of branches (watergrass, perhaps), similar to **12**, and snakes or eels.
21. Rosette.
22. Form uncertain. This fragment, as well as several others, shows a peculiar technique, the addition of a white streak to the decoration after firing, but before glazing. For similar technique, cf. *Myk. Vas.* XXVI. 203.
23. Black and red decoration. Uncertain what the complete design was.
24. From a plate. Reddish clay, with yellow slip on obverse, red on reverse. Flower pattern, the same on both sides in dark red. Cf. *Myk. Thong.* XII. 68.
25. Part of plate, with pattern similar to **3**, in flaky dark brown.
26. Greenish clay. Cf. *Myk. Thong.* III. 9.
- 27 a and b. Two fragments from the same vase. Reddish clay and decoration. Alternate buds and flowers. In spite of a certain conventionality of treatment, and indifferent technique, the resemblance of these fragments to those from Therasia (*Myk. Vas.* XII. 78) justifies their position in this class.

A considerable number of fragments representing three-handled vases similar to *Myk. Vas.* VII. 45, IX. 52, were found. This seems to have been one of the favorite shapes of this class. As a rule, ornamentation is introduced into the space above the scallops.

Fig. 12 a and b. Fragments of large bowl which measured 45 cm. in diameter. Form uncertain.



FIG. 12.

Whether it had a foot is doubtful, so that the height cannot be estimated. Coarse reddish clay (thickness 0.012 m.), with a yellow slip, more reddish in tone on the inside. Decoration in light and dark red.

On the outside (**b**) a row of tall leaves, separated by stalks; on the inside, on rim a variety of "tongue pattern," with a milled border. In field two fishes and an eel.

This plate is perhaps the most interesting specimen of Class II., 2. The form is unknown to me in any other vase. It varies from the regular plate type in that the subject is different on the two sides. The pattern on the rim is clearly a very early instance of the "tongue pattern" so common

in later vase-painting. Cf. *Myk. Vas.* xxxiv. 344. The leaf pattern on the outside is only a symmetrical arrangement of the design on *Myk. Vas.* xxxii. 314. The species of the fishes (perhaps carp) remains doubtful, but the naturalness of the drawing is an advance of No. 1 on PLATE LI.

CLASS III., DIVISION 1.

We now cross the great bridge which divides the Mycenaean style and find that the old naturalism has given place to conventionalism. But this is not the only difference between Classes II. and III.; technique itself has made great progress. The clay used is generally red or yellow in color, of a fine clear quality, carefully cleaned from impurities. The quality of the decoration is more lustrous and glossy, while in the best specimens the glaze takes on an intense brilliancy. The style of ornamentation changes, and certain motives used occasionally in the previous classes now become the favorites, such as spirals, etc. The old plant and marine motives with a few exceptions (e. g. the murex) have disappeared, and those which are now prominent are paralleled in other forms of Mycenaean art in stone and metal.

Though the conventionalism of Class III. follows the naturalism of Class II., and in this sense is a later style, we are not to assume that the manufacture of Class II. ceased. In fact there is positive proof that the two flourished side by side, since in the Bee-Hive tomb which we excavated (cf. p. 91 ff) were found vases of both classes. Such a radical change as that from naturalism to conventionalism is not the work of a day; it must have extended over a long period. But such a fact does not argue against a classification based on ornamentation, where a difference of time is not necessarily demanded.

Nor should the relation of III. 1 to III. 2 be misunderstood. We cannot regard them as two absolutely distinct and unrelated styles. I do not for a moment intend to imply that for a certain period of years Mycenaean potters continued to manufacture vases of a certain "hall-marked" excellence and then suddenly began to go down hill. What we call III. 1 is undoubtedly the best work of a certain period of Mycenaean ceramic art; III. 2 is the general average of such a period. As the best work of a given period is only a small proportion of the whole, the small amount of III. 1 compared to III. 2 bears this out. III. 1 bears the same relation to III. 2 that the work of Euphronios, Hieron, Duris, and Brygos does to the mass of red-figured vases produced in Athens prior to the Persian wars; it is the best ceramic art of the time.

The fragments reproduced on PLATE LII. are not all that were found, but the number was not large, and those represented illustrate the group. The technique of all the fragments is substantially the same, the clay red or bright yellow (more often the former), the decoration varying from red to brown, with black occasionally used and the glaze of surpassing brilliancy and fineness. The favorite ornaments seem to be the spiral and the murex.

The majority of the fragments are rims of two-handled bowls or kylixes similar in form to *Myk. Vas.* xlv. 76, 83.

28. Rim of bowl. Decoration shades from brown to red. Part of a spiral row, spirals unconnected. Cf. *Myk. Vas.* viii. 46.

29. Rim of one-handled bowl. Clay extremely delicate. Outer band of spiral brown, inner bands red. Cf. *Myk. Vas.* xxix. 258. Both form and decoration seem to be the same as on the vase in Cassel. *Arch. Anz.* 1899, p. 57, fig. 1.

30. Rim of bowl. Spiral chain.

The majority of the fragments of this class bore the decoration of spirals, in chain or single. Most of the fragments were extremely small.

31 a-c. Three fragments from rim of a bowl. Reddish clay, with bright yellow slip and red decoration. For the toothed edge of **c**, cf. *Myk. Vas.* xxiii. 171.

The murex or purple fish ornament is extremely common. It is curious that we cannot trace its origin to an earlier class, since it does not occur in Classes I. and II. Even in Class III. it is impossible to trace any preliminary steps unless we recognize one of the early essays in the cup from Ialysos;¹ that, however, seems rather too conventionalized for a prototype. The arrangement of the pattern varies, the most common being a row of double murexes as in *Myk. Vas.* xxxi. 297, or else they are laid diagonally on their sides.

32. Rim of bowl. Series of murexes placed diagonally to the line of the rim. Cf. *Myk. Vas.* viii. 47. Decoration bright red and technique extremely fine.

33. The same.

34. Clay a trifle coarser than is usual in this class and appears burnt. Glaze extremely brilliant. Undoubtedly part of a large vase, as the murex is far larger than is usual.

Various Designs.

35. Rim of bowl. Series of parallel zigzags, decreasing in size towards the base. Cf. *Myk. Vas.* xxx. 273.

36. Greenish clay. The design cannot be reconstructed. The nearest similarity lies in two fragments of Class IV. (*Myk. Vas.* xxxvii. 378, 379), and it is possible that we may have here as there the combination of a spiral and a ray.

37 a and b. Two fragments from same vase. Net ornament. Cf. *Myk. Vas.* xx. 146.

38. The same.

39. Rim of bowl. Undoubtedly a suggestion of a guilloche. Cf. *Myk. Vas.* xxxiv. 337; xix. 134.

40. Rim of bowl. Probably a design similar to *Myk. Vas.* xxx. 280.

41. Rim of bowl. Cf. *Myk. Vas.* xxxi. 288.

42. Fine red clay, with whitish slip, red brown decoration. Similar pattern to **37**, save that a cross is placed at each corner of the mesh.

43. Similar clay and slip. Half circle at corner of each mesh.

CLASS III., DIVISION 2.

Class III. 2 forms the bulk of all Mycenaean pottery, no matter where found. Though the largest class of all, it is, as a whole, uninteresting save in regard to its bearing on contemporary art. There is little exercise of skill on the part of the potters, who seem to have been contented to turn out large numbers of vases varying little in form or decoration.

The class differs principally from its predecessor in that the quality as a whole is decidedly inferior. The clay is coarser and not so carefully cleaned, varying in shade, red and yellow predominating. The decoration is of many colors, the different shades of red and brown being the favorites. The paint also is of a very inferior quality, and on many vases has almost entirely faded. The glaze is generally dull, and never reaches that lustrousness so characteristic of the preceding class.

In the arrangement of the fragments, the order adopted by Furtwängler and

¹ *Gaz. Arch.* 1879, pl. xxvii., also in *Myk. Vas.* ix. 56.

Loeschke has been followed, since the general succession of our fragments differs in no great degree from that of other Mycenaean fragments. Only a few of the Heraean fragments are here presented, but they illustrate all the principal types and the general development of the ornamentation.

The condition of the fragments was extremely bad. Out of the whole class we succeeded in reconstructing only three vases, one of which coming from a small tomb had almost all the fragments preserved. Another half dozen had about half their fragments remaining, and twenty or more were represented by perhaps a dozen fragments apiece. More than a hundred were represented by from two to five fragments apiece. What the total number of vases represented by the fragments was, is impossible to say, as no calculation can come near the truth; the number certainly ran into the thousands. As a rule where several fragments from the same vase were forthcoming, only one or two are here given, unless the scheme of ornamentation was not plain. As so many cases occurred where fragments of identically the same clay and technique clearly belonged to different vases, the relation of several fragments to one vase has been ignored, unless their common origin was clearly shown by a joining or otherwise.

The field in which our fragments lie is practically covered by plates XVII.-XXXV. of the *Mykenische Vasen*. The fragments corresponding to plates XXV. and XXVI. we have already assigned to Class II. 2. It has proved impossible in all cases to follow Furtwängler and Loeschke's arrangement exactly, and such variations as are introduced are justified by the demand of the particular fragments under discussion. I have endeavored to discuss the natural sequence of the ornamentation, i. e. to treat the conventionalizing of naturalistic motives first and the linear ones last, since we find the Mycenaean style as a whole passing from linear to naturalistic motives and through the conventionalizing of the latter, receding to linear themes again, as illustrated by Class IV.

Fig. 13. Amphora, from *Myk. Vas.* XLIV. 45; height, 0.33 m.; diameter of opening, 0.105 m. Reddish clay, with yellow slip and dull black decoration. From a grave back of the peribolos wall above the South Stoa. Small part of vase restored in plaster.



FIG. 13.

This was the only vase which allowed a fairly complete reconstruction. The ornamentation is similar to that of the amphora in *Myk. Vas.*

XXVI. 223, save that the central design and the buds of the flower are treated in a slightly different fashion.

PLATE LIII.

Flower Buds.

1. Rim and handle of bowl. The bud has here been cut in half. Another smaller fragment of this vase was found.

2. Flower buds in series. Cf. *Myk. Vas.* XXVI. 218, 220.

3. Flower bud and diamond. Cf. *Myk. Vas.* XXVIII. 246.

Circles, Diamonds, etc.

4. Circle; dotted row outside. Cf. *Myk. Vas.* xxviii. 229.
5. Same; dotted row inside.
6. Handle of bowl. Same as 4, with addition of central dot to the circle. Cf. *Myk. Vas.* xxviii. 237.
7. Rosette in simplest form.
8. Lozenge with central cross; similar to *Myk. Vas.* xxviii. 240, save for omission of outside lines.
9. Diamond chain. Cf. *Myk. Vas.* iii. 18.
10. Diamond, diagonals inside. Cf. *Myk. Vas.* xxix. 256.
11. Diamond circle in centre.

Spiral Forms and their Development.

12. Rim of bowl. Another bowl of precisely similar form and decoration is in the Louvre, Room A, left hand window case (no number given). Spiral in its most elementary form.

13. Spirals in chain, simplest form. Cf. *Myk. Vas.* xxviii. 242.

Fig. 14. Jug with spout and one handle. Height, 0.135 m. Pale yellow clay, with greenish slip, faded black decoration. Row of spirals unconnected. For form, cf. *Myk. Vas.* xi. 66.



FIG. 14.

This jug was labeled as coming from the same tomb as the four small vases of the "dull" finish mentioned on p. 74. Professor Waldstein informs me that the label is wrong, as a photograph of the tomb shows only the four vases already referred to. It is probable that this jug comes from the same tomb as **Fig. 13**.

14. The same. Introduction of ornament (semicircle) in field. Similar to *Myk. Vas.* xxviii. 245, save that here the ornament is unconnected with the spiral.

15. The same; greenish clay, with faded decoration.

16. The same; ornament resembling an E reversed. Cf. *Myk. Vas.* xxxii. 312.

17. Two semicircles in field. Cf. *Myk. Vas.* xxxiii. 319.

18. Double row of spirals, alternating.

19. Similar arrangement of spirals to that of our amphora (**Fig. 13**). Cf. *Myk. Vas.* xxix. 256.

20. Cf. *Myk. Vas.* xxix. 253. Several other fragments of this bowl were found. Its chief peculiarity lies in the greenish yellow slip of the exterior. The decoration is considerably faded. Though no fragments fitted each other, it is plain that the scheme of decoration was a row of spirals, the loops curving upwards and unconnected.

21. Rim of bowl. Reddish clay and red brown decoration.

22. Yellowish clay, pale slip. Stripe on inside. Cf. *Myk. Vas.* xxix. 255.

23. Shoulder of three-handled vase. Double row of spirals.

24. From a cup of precisely similar form and decoration to one from Nanplia. Cf. *Myk. Vas.* xxi. 150, p. 146; also xxxii. 302.

25. Rim of bowl; dull red glaze on interior. Undoubtedly same shape and design as *Myk. Vas.* xv. 93.

26. Clay of a bright brick red color. Whether the floral or marine influence is most prominent here is hard to say, as the movement strongly suggests the arms of a polyp. Cf. *Myk. Vas.* xvii. 110.

27. Handle with spirals. Introduction of *svastikas*.

Flower Patterns.

The flower pattern in Mycenaean art is one of the earliest motives; we have already found it in Class II. 2 (cf. PLATE LII. 6 and 7), and similar though not identical plants may be found on the sword-blades from Mycenae.¹ A comparison of our fragments with those in *Myk. Vas.* xxx. shows many points of similarity, but the progression towards conventionalization mentioned by Furtwängler and Loeschke (p. 60) can hardly be seen here, since in none of our fragments is the drawing of the pistils, seed-bags, and leaves at all apparent, and all our fragments have arrived at the conventional stage. The pseud-amphora is the commonest form, though many fragments of bowls like *Myk. Vas.* xxx. 276, were found.

28. Shoulder of pseud-amphora. Two clays together, pale red inside, dark red outside, with a bright yellow slip. Cf. *Myk. Vas.* xviii. 124; xxx. 266.

29. The same.

30. From belly of a bowl. Cf. *Myk. Vas.* viii. 43; xxi. 157.

31. Rim of bowl. Several other fragments found. Cf. *Myk. Vas.* xviii. 122.

32. Similar design.

33. Similar design. Top of flower ends in a loop. Several other fragments from the same vase were found.

34. The zigzag corona of the flower now stands by itself. This is one of the commonest motives, and may be found on dozens of our fragments. Cf. *Myk. Vas.* ix. 51.

35. Series of zigzags used as border lines.

36 a and b. Two fragments from the same vase; another smaller fragment was also found. Brick red clay, probably burnt. The zigzag pattern is used almost exclusively, and suggests a transition style to the geometric. The half circles as ornaments in field are used in similar fashion to the "Running Dog" pattern. Cf. Flinders Petrie, *Tel-el-Amarna*, xxvii. 41-43; *Myk. Vas.* xv. 96.

37. Flower branch. Cf. *Myk. Vas.* xxxi. 286.

PLATE LIV.

Flower Branches.

1. Simple form. Dotted row above and below corona.

2. Flower branch similar to PLATE IV. No. 32, corona of zigzags. In field toothed wheel.

3. Similar treatment to No. 1.

4. Interior dotted row omitted.

5. Similar to No. 1. Clay burnt to a dark gray.

6. Lower part in form of two spirals curved like volutes.

7. Waving branch to each side, probably as an imitation of a palm-tree. Cf. *Myk. Vas.* xxxi. 293.

8. Top arranged in triple form, half circles unconnected.

9. Part of large bowl. Triple arrangement of corona, in elaborate form, combined with the murex. Cf. *Myk. Vas.* xxxi. 298, p. 61. Whether the murex is paired or single cannot be told with certainty, but probably the former case is true. This combination is a common feature on vases of this class.

10. Cf. *Myk. Vas.* xi. 72. Similar, but not as elaborate.

11. Half a dozen other fragments of almost identical clay and technique were found. Those fragments, however, had different motives, and it seems impossible that so many different themes should be combined on one vase. Hence no reconstruction was attempted. The arrangement of the motive here is clearly connected with the flower branch just discussed.

12. For the scroll ornament cf. Schliemann, *Mykenae*, p. 291, fig. 369, *Jahrb.* II. (1887), p. 55.

¹ *Athen. Mitt.* VII. (1882), p. 245, pl. viii.; cf. also the wall paintings from Therasia. *Myk. Vas.* xii. 73, 74.

Murex, or Purple Fish Patterns.

The murex pattern is generally arranged in series of single ones, or pairs, the tops touching the border of the rim of the vase. Furtwängler and Loeschcke's statement,¹ "das Ornament wird besonders häufig an Bechern und Näpfen verwendet, doch nur an solchen deren Innenseite ungefirnisst ist," is not correct, since on several of the Heraeum fragments, with glaze on the interior, was this ornament found.

13. Side of a large bowl, form *Myk. Vas.* XXXI. 297, about 30 cm. in diameter. Height cannot be determined, but it was probably the same as the diameter. The clay is of a warm yellow, but with a tinge of red and yellow slip. Decoration changes from black to brown and dark red. Murexes in single series. Several other fragments of same vase were found.

14 a and b. Two fragments of a kylix, yellow clay. Murexes in single series, rosette under handle. Several other fragments of same vase were found.

15. Rim of bowl. Simple murex combined with another diagonally. Cf. *Myk. Vas.* VI. 30.

16. Murex laid diagonally. Dark red glaze on interior.

17. Murex arranged diagonally. Cf. *Myk. Vas.* VIII. 47. Dotted circle inside head of murex.

18. Murex laid horizontally. Brilliant dark red glaze on interior.

19. Rim of large bowl. Dotted circle outside head of murex. The zigzag pattern at the side is curious and suggests the imitation inscriptions found on black-figured work. Cf. *Myk. Vas.* XV. 96, XX. 145, XXI. 154.

20. Murexes in pairs, points curving outwards. Dotted circle between the pairs. This variation where the points curve outwards, and the pair combined in single form, is extremely rare. Cf. Schliemann, *Tiryns*, pl. xxii. b, *Myk. Vas.* XXXI. 299.

21. Alternate murex and pistil.

22. Reddish clay, brown decoration. This ornament is probably a development of the murex pattern.

Linear and Textile Patterns.

The conventionalization of the pictorial ornaments now leads to a steady employment of linear and textile patterns. Whether the latter are really drawn from those used in embroideries is impossible to say.²

23. From a bowl of precisely the same form and decoration as *Myk. Vas.* XXXII. 306, save that here the lozenges of the upper row are double instead of triple in form.

24. Alternating larger and smaller arches. Cf. *Myk. Vas.* XXXII. 308.

25. The arches are bounded above and below by circles.

26. Small arches in series.

27. From a large bowl. Suggestion of a guilloche. Cf. *Myk. Vas.* III. 21.

28. The ornaments in field here consist of circles whose diameter is broken. Cf. *Myk. Vas.* XXXII. 313. Perhaps a representation of a mussel-shell open. Cf. *B. C. H.* II. pl. xv. 10.

29. Similar, with the addition of a smaller circle inside the larger one.

30. Ornament resembling a reversed E surrounded by semicircle. Cf. PLATE LV. 16; *Myk. Vas.* XXXII. 304, 307, 312. Perhaps the half of a mussel-shell; cf. *Myk. Vas.* p. 61, No. 304.

The principle in the following fragments seems to be the division of the vase into a series of metope-like squares by vertical lines, the vacant spaces being filled by natural ornaments conventionalized or else textile motives.

31. Simplest form of design. Series of semicircles back to back separated by a series of lines, not quite vertical.

32. Similar decoration. Outer vertical lines bounded by series of loops, which is one of the commonest motives at this time.

¹ *Myk. Vas.* p. 61, No. 297.

² Cf. *Myk. Vas.* p. 62.

33. Semicircles almost contiguous. Between the vertical lines, series of parallel zigzags. Cf. *Myk. Vas.* XXXIII. 317.
34. Double semicircles in upper right-hand corner with central dots. Cf. No. 29.
35. Vertical lines interlaced by diagonal lines.
36. Double semicircles, large and small. Herring-bone pattern between the vertical lines. Cf. *Myk. Vas.* XXXIII. 318.
37. Three double semicircles bounded by mussel ornament in series.
38. Interior semicircle in loop form. Cf. *Myk. Vas.* XXXIII. 324.
39. Dull brown glaze on interior. Square divided into four triangles by diagonals, with arcs. Cf. *Myk. Vas.* XXXIII. 316.
40. The same; double semicircles in each triangle.
41. Diamond in square, divided by double semicircles into three sections. Another smaller fragment from the same vase was found. Cf. *Myk. Vas.* I. 5, xv. 99, XXXIV. 345.

PLATE LV.

1. Reddish clay with darker core, plastic mouldings on upper and lower edges. Form uncertain, but probably that of a three-handled pyxis with rounded base, as in *Myk. Vas.* XLIV. 34. Ornament a variation of the "Running Dog" pattern (see below) growing out of the loops already mentioned. Perhaps the ornament may have been intended for a guilloche. Cf. *Myk. Vas.* XXXIV. 347.

2. Similar clay, but from rim of a bowl. Perpendicular loop pattern, the ends carried out to a point (as in No. 1) with rosette in field.

Fig. 15. Bowl. Form, *Myk. Vas.* XXXIII. 328; height, 0.104 m.; diameter, 0.145 m. Light red clay, with warm yellow slip, circular bands on interior. Similar decoration on both sides, three perpendicular series of lines, the outer inclosing a herring-bone pattern, the central one zigzags with a dotted semicircle on each side. Cf. *Myk. Vas.* XXXIII. 327, 330. Numerous other fragments of precisely this scheme of ornamentation were found.



FIG. 15.

3. Rim of bowl, reddish yellow clay, continuous zigzag between the perpendiculars and dotted rosettes. Good technique.

4. The ornament is probably a variation of the palm-tree (cf. *Myk. Vas.* XXXI. 296). I have been unable to find another instance exactly similar. Lozenge chain introduced between the perpendiculars. Another small fragment of the vase was also found.

5. Exactly the same clay and technique as PLATE LIV. 11, but it is doubtful whether it belongs to the same vase. The herring-bone, as on PLATE LIII. 34, is here introduced.

6. Herring-bone between the verticals; one of the commonest Mycenaean motives. Cf. *Myk. Vas.* XXXIV. 336.

7. Lozenge chain between the verticals as on 4.

8. Continuous zigzag between the verticals as on 3.

9. The zigzags are here separated. Cf. *Myk. Vas.* XXXIV. 340. A common motive.

10. The same, broader lines, verticals in pairs.

11. The same, verticals in pairs, closer together.

12. The lines between the verticals are here treated as on 2.

13. Interlacing diagonal lines between the verticals. This form of decoration is especially characteristic of the shoulder decoration on pseud-amphoras, or three-handled vases. Cf. *Myk. Vas.* XXII. 159.

14. "Running Dog" and scale patterns. Cf. *Myk. Vas.* XIX. 136; XX. 146.
 15. Red glaze on interior. Dotted scale pattern. Cf. *Myk. Vas.* X. 62; Schliemann, *Mykenae*, pl. xiii. 63; Dumont and Chaplain, *Cér.* pl. iii. 19.
 16. Scale pattern with dotted circles. Similar in character to *Myk. Vas.* XI. 70.
 17. The same, double lines to each scale. Cf. Schliemann, *Tiryns*, fig. 36.
 18. Scales in branch form. Cf. *Myk. Vas.* VI. 32; XI. 70.
 19. Rim of bowl, another fragment from the same vase also found. Parallels inclosing cross lines meeting at an obtuse angle.
 20. Lozenge chain laid horizontally. Cf. No. 7.
 21. The same, chain bounded by an outer line on each side.
 22. Similar to 21, the interior pattern a "Running Dog." Another fragment of the same vase also found.
- It is very probable that in 21 and 22 a guilloche was represented. Cf. *Myk. Vas.* XXXIV. 328; Schliemann, *Tiryns*, pl. xxvi. c.
23. "Running Dog" pattern. Cf. *Myk. Vas.* XVIII. 131.
 24. Probably the same pattern. The ends, however, do not overlap. Cf. *Myk. Vas.* XV. 96.
 25. "Running Dog" pattern, simplest form.
 26. The same, double pattern arranged vertically.
 27. Probably a development of 24. Cf. *Myk. Vas.* XV. 96; XXI. 154.

It is well to consider here the line decoration, or linear principle, which runs all through Mycenaean decoration from the earliest times. The examples here cited (PLATE LV.) ought strictly to fall in several of the classes already considered; but as this linear principle has a peculiar bearing on later periods, especially the Argive style, it is best to treat these fragments for a moment in one special class. Only those fragments have been selected which afford an example of fine line decoration; fragments of large vases with broad lines as their only decoration were extremely common.

Though some line decoration occurs on almost every vase of the Mycenaean epoch, it is only during this period, when Class III. flourishes, that we find the steady employment of the fine as well as the heavy line, used chiefly on vases of the pseud-amphora type. The shoulders of such vases are generally filled with various motives, but from the shoulder to the base the vase is ornamented with a series of parallel lines, heavy and fine. Such fragments were extremely common at the Heraeum. Their relation to vases of the Argive style will be more fully discussed in chapter iv.

28. Lower part of funnel-shaped vase, of the so-called "Ialysos" type. Cf. *Myk. Vas.* VII. 42; XI. 71. The opening runs the whole length of the vase. Fragments of such vases were fairly common at the Heraeum, and as far as could be seen the only form of decoration on them was linear.

29. Belly of pseud-amphora.
30. Base of pseud-amphora.
31. From shoulder of pseud-amphora. On shoulder traces of a flower pattern similar to PLATE LIII. 28. The central lines are bordered by a loop pattern, in series.
32. The same. The spirals are treated in a more naturalistic fashion, which, combined with the excellent technique, would seem to denote its standing between Classes II. 2 and III. 1.

There still remain several kinds of vases to be mentioned, which, to judge by technique and style, are certainly not older than Class III. 2, and most probably belong to it.

Vases of a reddish yellow clay, carefully polished, but without decoration. Fragments of these vases were numerous and filled several baskets. Some specimens were found in the Bee-Hive tomb (see p. 91). Only a few vases could be restored from the fragments, and represent mostly kylixes and amphoras.

Another series, which seems to belong to a separate class, was formed by fragments exactly similar to the one-handled cups from the Bee-Hive tomb. (Cf. **Fig. 32.**) The clay is generally fine, red or yellow in color, with a brilliant glaze, the rims and feet being ornamented with bands. The body of the vase is covered with a decoration hard to describe; it seems as if the color had been sprayed on the surface of the vase. Whether this is the same technique exhibited by the vases from Aliki (*Myk. Vas.* xviii. 119, 125), I cannot say; it is not common, and thus far the only similar specimens I have been able to note are from the Acropolis at Athens and Aegina. Just what position they occupy in the Mycenaean style is doubtful, but the several points of technique, clay, glaze, and color would seem to assign them to Class III. in the first division rather than the second.

Of the class of small, hand-made vases, mentioned in *Myk. Vas.* p. 63, the Heraeum furnished one intact (**Fig. 16**) and numerous fragments of others. This is a one-handled jug (height, 0.065 m.) of light reddish clay, with yellow slip, the decoration varying between black and red. Cf. *Myk. Vas.* xv. 101, 102, xvi. 108; Schliemann, *Mycenae*, p. 66, No. 27.

Another vase belonging to Class III. is **Fig. 17**; height, 0.06 m.; diameter, 0.051 m. Two legs and handle restored. Greenish clay, with black bands on body and legs, dots on rim.

The form of this vase is identical with *Myk. Vas.* xliv. 192, save that the legs do not turn up at the bottom. Cf. *Jahrb.* I. (1886), p. 134, fig. 3006.



FIG. 16.



FIG. 17.

CLASS IV.

The number of fragments belonging to Class IV. is very small. In only a few cases were more than three fragments of the same vase found, and even then the design could not always be reconstructed. The peculiar fact is that the fragments of this class which we possess do not show the wealth of ornamentation we should have expected. A very slight study of vases belonging to this class from other localities shows that it is thoroughly decadent, with a wealth of ornamentation linear rather than pictorial in character. The Heraeum fragments show this linear feature, and even though the wealth of ornamentation be lacking, the similarity between them and other vases of the class, in decoration, clay, technique, etc., is strong enough to warrant our placing them in Class IV. without question.

The clay of all our fragments of this class is much coarser than in the previous class, and is generally greenish in tone. The color has lost the lustre which was prominent before, while the glaze is generally dull and never rises to the level of that of Class III. in point of brilliancy. Though the forms of the vases cannot always be determined, it is safe to say that bowls were the most common. It may also be stated that fragments of this class which belong to vases with large openings do not always have the interior glazed (*Myk. Vas.* p. 63), or, to put it differently, the absence of glaze on the backs of large fragments of bowls is no proof that they are not connected with Class IV. In fact, among the Heraeum fragments of this class, glaze on the back was the exception rather than the rule.

As the number of fragments is so few, no attempt has been made to arrange them in

chronological order, nor, indeed, could any satisfactory classification of ornamentation be found, since in an over-elaborate style like Class IV. it is a difficult task, when dealing with a few scattered fragments, to evolve any definite scheme. In the main the order is based upon plates xxxv. and xxxvi. of the *Mykenische Vasen*.

33. Pattern similar to PLATE LIV. 38. Alternate diamonds in the interspaces of the arches. Cf. *Myk. Vas.* xxxv. 351. Two other fragments of the same vase were found.

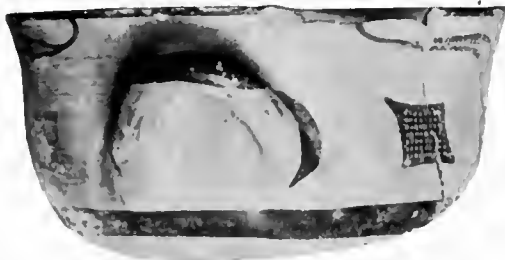


FIG. 18.

34. From side of bowl. Greenish clay. Cf. *Myk. Vas.* xxxv. 357.

Fig. 18. Half of bowl. Form, *Myk. Vas.* xxxiii. 318; height of fragment, 0.069 m.; clay light red, with warm yellow slip, red decoration fairly brilliant. Though half of the design is missing, there can be no doubt that it was somewhat similar to *Myk. Vas.* xxxi. 296, with a lozenge of interlaced lines on either side.

Throughout Class IV. the "Heraldic" scheme or "Wappenstil" plays a prominent part and is illustrated by several of our fragments.

35. Similar "Heraldic" scheme. Band on interior just below the rim. Cf. *Myk. Vas.* xli. 424.

36. Similar arrangement. Continuation of design to a circle of interlacing lines.

37. Decoration much faded. Evidently a development of *Myk. Vas.* xxix. 256; cf. *Myk. Vas.* xxxv. 357.

38. Possibly a development of *Myk. Vas.* xxxi. 296. Though dots are frequently employed as the groundwork of a design, their use in place of the line is very curious. A somewhat analogous use occurs in fragments from Tiryns. (Cf. below No. 46.) The "Heraldic" scheme suggests *Myk. Vas.* xxxv. 356.

39. Shoulder of pseud-amphora. Ellipse inclosing series of zigzags.

40. Perhaps similar arrangement to *Myk. Vas.* xxxvi. 376.

41. From a bowl. Band below rim on inside. Similar "Heraldic" scheme to Fig. 18.

42. From a large vessel.

43. Reddish clay, fine technique. Elliptical lines inclosing series of zigzags curving to a point.

44 a-d. Four fragments from same bowl. Greenish clay, with black decoration. The arrangement of the design is extremely difficult to restore. That a bird was intended seems fairly evident if a (the head) be compared with *Myk. Vas.* xxxvi. 364, and c (the wing) with xxxviii. 383. Perhaps like Schliemann, *Tiryns*, pl. x. 45.

BIRDS, ANIMALS, AND HUMAN FIGURES.

Though the use of figures, animal or human, is one of the later innovations of the Mycenaean style and a characteristic feature of Class IV., all vases which show this use do not necessarily belong to that class. Such figures seem to have been introduced during the latter period of Class III. Only half a dozen of such fragments were found at the Heraeum, but no satisfactory explanation of the lack of such fragments is forthcoming. All except the last (No. 47) belong to Class III.

45 a and b. Two fragments from the same vase. Brick red clay, with dark red decoration. Two birds, somewhat resembling a wild duck, are represented. Both fragments show an extremely advanced style of technique and belong to Class III.

46. Rear part of base of the well-known "Tiryns" type. The legs and body of the horse are filled in by dots as in No. 38. An identical use may be found in a fragment from Tiryns (Schliemann, *Tiryns*, pl. xxi. a).

Fig. 19. Fragment of a large bowl of 34 cm. in diameter. Height of fragment,

0.125 m.; length, 0.22 m.; thickness of clay, 0.006 m. Reddish clay, with lighter core and pale reddish slip, dull red decoration. Upper part of two fishes represented. Class III.



FIG. 19.

The arrangement of fishes in a symmetrical series with a flower branch between them is a natural characteristic of the third class. The use of crosses instead of dots as decoration for the body is quite akin to that on plate xi. 48 of Schliemann's *Mycenae*. A similar arrangement may be noted on a lebes from Cyprus in the British Museum. (*Excavations in Cyprus*, p. 35, fig. 66, No. 1038.) Cf. also Petrie, *Kahun, Gurob, and Hawara*, pl. xxviii. 9.

47 Base of a bowl. Reddish yellow clay, with black decoration. Lower part of human figure with a tree or branch.

This is the only Mycenaean fragment from the Heraeum on which the human figure occurred. Its treatment is somewhat curious, and savors more of those figures on Geometric vases. However, it seems doubtful whether any Geometric influence can be here recognized.

Fig. 20. (Form, *Myk. Vas.* XLIV. 63; drawing on PLATE LXIV. 1.) One-handed jug; height, 0.054 m. Found at the southeast of the Second Temple. Yellow clay and slip with decoration varying from black to red. On base rays, and figure zone on the body; another figure zone on the shoulder, and stripes on the neck and rim. Vertical zigzag on the handle between two perpendicular lines. Intact.

This vase is of special interest, since it shows the transition between the Mycenaean and Argive styles. Clay and technique are unmistakably Mycenaean, but the general scheme of decoration savors more of the Argive style, since we have an animal zone and a very primitive example of a ray pattern around the base.

On the shoulder are represented three animals, but so rudely drawn that it is impossible to identify them. They have large open mouths, three projections above, which may represent ears and horns, and a tail almost like an extra leg. Each leg ends in a triple division. Three animals precisely similar are represented on the main zone, inverted. This inversion gives an extremely curious effect, as the animals thus resemble boats with their sailors, the ray pattern serving as waves; but it is plain that such an effect is accidental. This inversion of the figures is paralleled by two skyphoi from the Heraeum (v. p. 151), and does not, as far as I know, occur on any Mycenaean vase.

This vase has been assigned to the Mycenaean class purely on technical grounds, for it shows so perfectly the characteristics of both the Mycenaean and Argive styles that it is difficult to decide to which class it really belongs. It must be admitted that no animal on any Mycenaean vase resembles these figures in any way; but, for that matter, no similar animal can be found on any Argive vase.



FIG. 20.

THE BEE-HIVE TOMBS NEAR THE HERAEUM.

Two tombs were discovered on the 20th and 23d of April, 1894. Both have been described in the previous volume of this publication, and consequently there is no need of devoting any time to the consideration of their architectural features. The contents of these tombs was as follows:—

TOMB I.

49 vases, 32 entirely or nearly whole, and 17
in fragments.
3 terra-cotta figurines.
1 terra-cotta chair.
1 island stone.
4 steatite whorls.
1 ivory needle.
Glass beads.

TOMB II.

Fragments of vases.
4 steatite whorls.
1 red agate bead.
1 bronze ring.

The few vase fragments from the second tomb were mostly undecorated, and permitted no reconstruction. A few fragments of bones were also found; but in the main the contents of the tomb are not worth a detailed consideration.

In the first tomb the results were more gratifying. Three layers were found, the upper containing bones and four vases (mostly cups), at a depth of 2.79 m.; the second, which contained a skull, some calcined bones, and the majority of the vases and fragments, at a depth of 3.28 m. Ten cm. below the second came the last layer, which, besides a few fragments of bones and a cup (No. 18), contained a small separate grave near the entrance of the *dromos* (length, 1.26 m.; width, 0.45 m.; depth, 0.66 m.). Through some accident during the transportation to Athens, several of the labels were lost, and it is now impossible, in the case of some of the vases or fragments, to decide from which layer they came.

The classes represented were II. 2 and III. 2. No specimens which showed the advanced technique of III. 1 were found, nor were there any rough pieces which could belong to II. 1. At the same time there appears to have been no distinction in the matter of layers, since vases of both classes were scattered about in each layer. Certain it is, however, that all these vases are products of the same period.

The shapes represented were as follows:—

11 jugs with handle.
2 jugs with handle and spout.
9 three-handled vases.
6 amphoras.
3 cups.

9 cups with handle.
4 kylixes.
1 pseud-amphora.
4 vases, represented by fragments, but not permitting a complete restoration.

Jugs with Handle.

1. Height, 0.207 m. Form, *Myk. Vas.* XLIV. 63. Coarse reddish clay, without any decoration. Base of handle pierced by a hole. Intact; first layer.



FIG. 21.



FIG. 22.

Two more jugs (height, 0.235 m. and 0.22 m.) were found in the second layer, of precisely similar form and technique. Both had a small hole at the base of the handle.

2. Height, 0.155 m. Similar shape to 1, but with handle a little more flaring. Reddish clay, with a highly polished yellow slip, without any decoration.

Half of another vase of same form and technique was found.

3. (Fig. 21.) Height, 0.103 m. Same form as 1. Red clay, with herring-bone pattern in a series of four on the shoulder in red brown.

Another jug precisely similar, but with spirals on the shoulder and plastic boss under the handle was also found.

4. (Fig. 29.) Height, 0.078 m. Handle missing. Form similar to 1, but rather more rounded and squat in appearance. Reddish clay, with black decoration laid on very thickly and cracked in places. Bands and continuous spiral chain on the shoulder, with dots in the field.

Another similar jug with leaf pattern on shoulder was found.

5. (Fig. 23 *a* and *b*.) Height, 0.074 m.; diameter of cover, 0.075 m. One-handed vase with cover. Form similar to *Myk. Vas.*

XLIV. 115, except that here the foot is lacking. Coarse red clay, with dark core pierced by two rows of holes, with a single row in the cover. The use of this peculiar vessel has never been satisfactorily explained; similar examples have been found at Troy in the fourth city (Schliemann, *Ilios*, p. 557, fig. 11, 96), and at Ialysos. (*Myk. Vas.* II. 15.)

According to Furtwängler and Loeschke these vessels were used to burn incense or some sweet-smelling powder for sanitary reasons, and this explanation seems very plausible, especially as we find the cover also pierced with holes.



FIG. 23.

Amphoras.

6. (Fig. 24.) Height, 0.17 m.

Form, *Myk. Vas.* XLIV. 44, except for a slight variation in the foot. Coarse brick red clay without decoration. The exterior has been entirely covered with a white wash, almost entirely worn away.



FIG. 24.

The principal feature of this amphora lies in the white wash. This, as is shown by many of our fragments, was a very common feature, and half a dozen baskets are filled with fragments showing it. Generally it seems to be employed on vases of coarse clay, large pithoi or small wheel-made saucers. While this technique is employed very often on Mycenaean terra-cotta figurines and later vases (e. g. the white lekythoi), it is extremely rare on archaic vases (two in Berlin, 1309, 1629), and I know of no other instance in the Mycenaean style. From its frequency in our fragments, it may perhaps be considered as a local fashion.

Another small amphora (height, 0.09 m.) similar in shape, of yellowish clay with a reddish tinge, but without the white wash, was found in the second layer.

7. (Fig. 25.) Height, 0.105 m. Light red clay, with yellow slip. Faded black glaze over all, inside and outside (except base).

This vase differs from the ordinary Mycenaean amphora in that the handles have no connection with the mouth of the vase. The absence of all decoration and the presence of the glaze proves that a large part of the glazed fragments which the Heraeum furnished must be placed in the Mycenaean period.

8. Height, 0.07 m.; form, *Myk. Vas.* XLIV. 73. Yellow clay, with red decoration very much faded. Second layer.

This vase was identical with *Myk. Vas.* x. 64, xv. 99, except that around the shoulder ran a series of ornaments similar to PLATE LV. 24.



FIG. 25.

Three-handled Vases.

Three varieties were found: (a) form, *Myk. Vas.* XLIV. 25, tall with wide opening; (b) form, *Myk. Vas.* XLIV. 32; (c) form, *Myk. Vas.* XLIV. 33.

a.

9. (Fig. 26.) Height, 0.213 m. Reddish clay, with black decoration turning to dark red. One handle missing. Three pairs of spirals on shoulder, separated by the handles and bands, heavy and fine. Second layer.



FIG. 26.



FIG. 27.

The form of this vase does not quite correspond to *Myk. Vas.* XLIV. 25, as the mouth is a little wider and the foot less pronounced; it lies between forms 25 and 27. When found it was completely full of ashes, which are probably human.

The upper part of a similar vase, but much smaller, was also found. Shoulder decoration, interlaced lines.

b.

10. (Fig. 27.) Height, 0.098 m.; diameter, 0.172 m.; diameter of opening, 0.098 m. On shoulder flower pattern.

tern similar to PLATE LII. 6, with dotted rosettes in field. Bands on base, the upper joined with a wave pattern and series of radiating lines on base. The decoration varies from black to red brown.

11. (Fig. 28.) Height, 0.05 m.; diameter, 0.185 m.; diameter of opening, 0.085 m. On shoulder three fishes. Usual decoration of bands in dark brown. First layer.

Four more vases of this type were found varying in height from 38 to 84 cm. The decoration was the same in all, a wave pattern on the shoulder similar to *Myk. Vas.* VIII. 45.



FIG. 28.

c.

12. Height, 0.06 m.; diameter, 0.109 m.; diameter of opening, 0.07 m. Dark and light red decoration, identical with *Myk. Vas.* XXII. 159, save that the stripes on the body run horizontally, not vertically. Interlaced lines on shoulder.



FIG. 29.

13. (Fig. 29.) Height, 0.065 m.; diameter, 0.10 m.; diameter of opening, 0.07 m. Brilliant black decoration. On shoulder double line loop pattern, bands on body in red and on base spirals in light brown.

The form of 13 is a cross between *Myk. Vas.* XLIV. 32 and 33, being higher in the body than 32, but lower than 33.

Teapot-shaped Jugs.

14. Height, 0.13 m. Form, *Myk. Vas.* XLIV. 68. Bands on body and handle and series of spirals on shoulder precisely similar to *Myk. Vas.* IX. 54.

15. Height, 0.12 m. Form, practically the same as *Myk. Vas.* XLIV. 15, except that the foot is flat. Entire vase covered with a dark red glaze except under handle and on the bottom.

Pseud-amphora.

16. Height, 0.115 m. Form, *Myk. Vas.* XLIV. 50. Ordinary decoration of heavy and fine bands similar to PLATE LV. 29, in red and brown. First layer.

Kylixes.

Four of these were found, of red or yellow clay, without any decoration. Two were of the same form as *Myk. Vas.* XLIV. 83; one, the same as *Myk. Vas.* XLIV. 82; while the fourth probably corresponded to form 85, but as one side was completely broken away, it cannot be told whether the vase possessed one or two handles. They were all from 10 to 12 cm. in height and from 11 to 15 cm. in diameter. One (form 82) was elliptical in shape, having a diameter across the handles of 13 cm.; at right angles to the handles, $14\frac{1}{2}$ cm.

Cups.

Two varieties of cups were noted (a) without handle; (b) with handle.

a.



FIG. 30.

17. (Fig. 30.) Height, 0.027 m.; diameter, 0.07 m. Brilliant red stripes around body, with another stripe on the rim inside.

Two others of similar shape were found, one a little more rounded at the base, measuring 43 and 44 mm. in height, 9 and 11 cm. in diameter, with no decoration whatever.

b.

Two varieties of b were noted: (1) Those with a handle curving upwards, above the rim, and (2) those with a handle curving downwards, below the rim.

1.

18. Height, 0.06 m.; with handle, 0.14 m.; diameter, 0.153 m. Form, *Myk. Vas.* XLIV. 102. Entire vase, except base and under the handle, is covered with a brilliant red glaze.

19. (Fig. 31.) Height, 0.06 m.; diameter, 0.104 m. Red clay, red glaze on interior, outside plain.

Three other cups of similar shape but with the rim less emphasized, were found, two undecorated, one ornamented with stripes. It is probable that 18 and 19 are direct imitations of metal work.¹



FIG. 31.

2.

20. (Fig. 32.) Height, 0.045 m.; diameter, 0.113 m. Form, *Myk. Vas.* XLIV. 87. Red clay, with light red stippling.

This cup is a good instance of the technique mentioned on p. 89. Three more cups were found, all of the same shape, one showing the same technique, one with a row of ornaments on the side similar to those on No. 8, and the third plain.



FIG. 32.

The terra-cotta figurines and the chair are described in the chapter on Terra-Cotta Figurines (p. 42).

¹ Cf. Perrot and Chipiez, *Hist.* VI. p. 965, fig. 533.

MISCELLANEOUS VASES.

Of the vases found intact, or partially so, mentioned in the Introduction, by far the greater part consisted of small, hastily made vases, with or without decoration, the exact date of which is extremely doubtful. The quality of the clay is distinctly inferior to that of the Mycenaean vases, and in many respects corresponds to that used in vases of the Geometric style, so that the majority of them may well belong to that period.

A comparison of the vases without decoration with the decorated vases is the only means for establishing a date for the former, and in the case of the latter the following data are available: (1) The most primitive examples (the saucers) show a use of "dull" color, which, together with their rather hasty technique, may perhaps assign them to the earlier periods of the Mycenaean style. (2) One small three-handled jug, which, from its polished surface, belongs more properly to the class discussed on p. 99, had a linear band of "dull" color. (3) Practically all the jugs, amphorae, and bowls were made of a coarse clay, more resembling that used in the Geometric vases, and if they are to be included in the Mycenaean style at all, would seem to belong to the very latest period. These, I shall endeavor to show later, constitute the real link between the Mycenaean and Argive styles. At the same time, I do not regard their sequence from primitive times as existing without a break, and for that reason I do not consider them as examples of the "Argive Linear" style which Professor Waldstein would consider them to be. It cannot, however, be assumed that their influence on any particular style was marked; they are simply the examples of the low level to which the potter's trade could sink, and from their large number it is reasonable to suppose they were the cheapest vases which the devotee at the shrine could buy. Being rough and small, they were not so easily broken, and were thus in far better preservation than larger vases of better technique. To assign an exact date to them is impossible, nor can they be arranged in any exact chronological order, except where the development of the shape can be readily seen.

Three general types may be distinguished: —

Saucers.

Bowls (with or without handles).

Jugs (with one, two, or three handles).

Saucers.

Three distinct varieties may be noted: —

- a. Plain, hand or wheel made.
- b. With central boss.
- c. With handles.

a.



FIG. 32 a.
Diameter, 0.05 m.

1. The most primitive examples seem to be a series of small hand-made saucers, of grayish or reddish clay, pierced by a hole near the rim, and varying from 5 to 7 cm. in diameter, and 2 to 3 cm. in height. Several hundred were found intact or in fragments. The ornamentation is of the simplest character, consisting of two lines crossing each other at right angles. Whether they belong to the dull or lustrous Mycenaean vases is difficult to decide, as the decoration is extremely poor, but they are more probably examples of the "dull" technique. Variety is obtained by increasing the number of cross-lines,

which vary from two to eight. As a rule the ornamentation is confined to the interior, but cases occur with the same design on the exterior as well. The earliest of the series is a saucer of red clay 5 cm. in diameter, with ribbed edges and two incised cross-lines on the interior. This probably falls in the primitive period.

Similar saucers were found in large numbers at Hissarlik, Mycenae, and Tiryns. In some respects they resemble saucers from Bos-öjök (Koerte, *Athen. Mitt.* 1899, pl. iii. 7) and Syra (*Εφην. Ἀρχ.* 1899, pl. ix. 25).

2. As a development of these we have a series of wheel-made saucers, of reddish clay (e. g. **Fig. 32 b**), from 4 to 7 cm. in diameter, of which about fifty were found. The inner edge of the rim is either sharply defined or rounded, and none have any decoration. The clay is of a slightly coarser variety than that used in the preceding examples.

b.

1. The earliest examples are hand-made, of a reddish clay, without decoration, having a small boss in the middle; they resemble the earliest examples of class **a**, save for their lack of decoration and the addition of the boss.

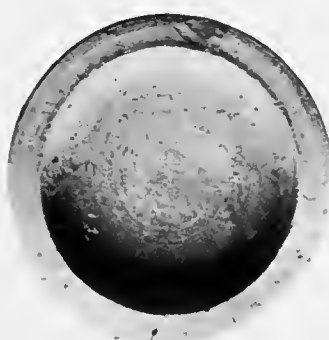


FIG. 32 b.
Diameter, 0.062 m.
Height, 0.013 m.

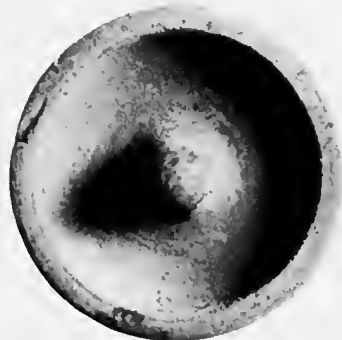


FIG. 32 c.
Diameter, 0.061 m.
Height, 0.016 m.
Height of boss, 0.026 m.

2. The wheel-made type (**Fig. 32 c**) corresponds in character of clay (wheel-made) and lack of decoration to **a**, 2. The principal variations lie in the height of the boss, which in some cases rises above the edge of the saucer. As in **a**, 2, the edges of the saucer are either rounded or sharp. A few examples were found with a series of parallel dashes of paint (dull) on the rim.

c.

Two varieties may be noted with one handle, and one with two handles.

The simplest form of the one-handled saucer is hand-made, the edges rolled over so as to form a curve down to the bottom of the vase, and the handle, of the simplest form, parallel with the sides. (**Fig. 32 d**.) This type was extremely common. A variation is introduced occasionally, where a plastic dab of clay is placed on each side of the

handle along the rim, similar to those on the shoulders of our terra-cotta figurines (**Fig. 32 e**); this saucer was entirely covered with a brown glaze, worn away in places. A few specimens were noted with one handle, and three plastic dabs of clay, arranged so as to form a symmetrical scheme on the four sides of the vessel. While the majority of these saucers are undecorated, some few are

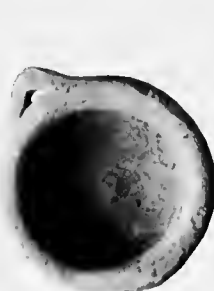


FIG. 32 d.
Diameter, 0.04 m.
Height, 0.012 m.



FIG. 32 e.
Diameter, 0.044 m.
Height, 0.015 m.

covered with a dull dark glaze, badly worn.

All the saucers with two handles show these plastic projections on each side of the

handle. The earliest example is hand-made, of precisely similar clay and technique to those first mentioned under *a*, with four cross-lines on the interior. The wheel-made types show a decided advance in execution. They are almost flat (a trifle over a centimetre in height, and from six to seven centimetres in diameter), the edges well defined, and they are made of a dark red clay without decoration. About a dozen specimens were found. As the quality of the clay resembles more closely the Geometric clay, and as they are exactly paralleled in shape by several of our bronze saucers, it is certain that they must fall in a rather later period, perhaps about the eighth century.

Bowls.

The earliest examples of bowls seem to be contemporary with the most primitive saucers mentioned above; they are hand-made, of very rude technique, the sides raised a trifle. In some cases a small dab of clay is added to the rim to represent a handle. None have any decoration.

The total number of bowls found was between one and two hundred; of these a few are hand-made, but the greater part are wheel-made. Slight variations in the forms may be detected, but hardly enough to warrant a regular classification.

The hand-made bowls are either plain or decorated, rounded at the base or else provided with a flat base. None have handles. The decoration invariably consists of one, two, or three narrow bands encircling the bowl just below the shoulder. A dozen examples were found where the vase had been covered with a white paint (as in No. 6 of the Bee-Hive tomb: Fig. 24). On one example a straight or a wavy band had been painted in red; this was added after the final firing as in the case of terra-cottas, and is easily friable. None of these bowls exceeded 3 cm. in height or 5 cm. in diameter.

Something over a hundred wheel-made bowls were found, the majority of a coarse reddish clay, similar to that of the wheel-made saucers. Only a few examples bore any decoration. The form is generally the same with the following variations. The rim is either flat, slightly curved, or sharply emphasized as in the saucers; the profile sometimes flares sharply outward and downward so that the diameter is greater at the base than at the opening. As a rule the profile curves inward towards the base, which is flat. The usual form of decoration consists of one or two broad or fine wavy bands on the shoulder. The following is the best example:—

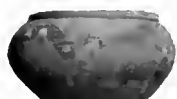


FIG. 33.

Fig. 33. Height, 0.024 m.; diameter, 0.047 m. Dark clay, seemingly burnt. On shoulder dark brown wavy band with yellow dots. Similar dotted band on rim.

This is probably one of the latest of the series, as the clay is more like that of the Geometric vases in texture and the technique more advanced. It is probably one of the earliest instances of the Geometric snake. The use of yellow dots seems to be a peculiarity of the Argolid and will be discussed later.

A few bowls were found, the rims ornamented by three plastic heads of animals, probably calves.



FIG. 34.

Fig. 34. Height, 0.026 m.; diameter, 0.043 m. Red clay.

Further another class may be mentioned of a technique slightly more advanced, where the bowl is provided with a foot and two large handles rising above the rim, similar in form to *Myk. Vas.* XLIV. 16, but without any decoration.

Jugs.

These numbered over five hundred and formed the majority of all the Heraeum vases intact or partially so. The greater part of them are wheel-made. As usual two classes of these were observed, those with decoration and those without. The greater part of the undecorated vases were exactly similar in size, form, and technique to the decorated vases, but a special class of hand-made undecorated vases existed which demands a more careful discussion.

I.

Without Decoration.

These vases all show the same peculiarities. The clay is of a dark red or yellow, the outside of which has undergone a very brilliant polish, and in some cases through the action of the fire has become bright red in places. Two shapes are represented. One-handled jugs or oinochoai and three-handled jugs. All are small, the largest not more than 12 cm. in height.

We are able to date with a fair degree of certainty the period in which these vases fall. First, one specimen of the handled jugs had on the shoulder a wavy band which is decidedly dull, not lustrous in character; secondly, other specimens have been found in a grave at Syracuse along with vases of the Argive style (second period).¹ Thus we obtain two *termini*, which show that these vases were manufactured as early as the Mycenaean dull period (fifteenth century) and as late as the Middle Argive period (eighth century).

Most of the shapes are similar to those used in the Argive style, only slightly more primitive in character, and naturally so, seeing that they are hand-made. A very few, which show the most developed form, are wheel-made and are probably the latest. At the same time the example from the Syracusan grave is certainly hand-made, showing that the use of the wheel was not universal even in that period of advanced archaism.

One-handled Jugs.

Two distinct forms may be noted, those with a circular and those with a trefoil rim (oinochoe). The latter show a technique more advanced, which fact, together with the form, assigns them to a later date than the first essays. At the same time it is certain that the oinochoe with trefoil lip is a form known to the Mycenaean epoch.² Further we find that the body is either round with a handle rising above the rim, or cylindrical with the top of the handle level with the rim.

Fig. 35. Height, 0.035 m. Handle restored. On either side is a small boss, perhaps representing a handle. On shoulder two straight lines and a wavy band in dull technique.

Several other examples of this same shape were found, but this jug alone possessed any decoration.

A few examples were found where the neck is slightly longer in proportion to the body and the handle dropped lower than the rim. Cf. *Ilios*, Fig. 1140.



FIG. 35.

¹ Tomb 305. Tomb 65 from Megara Hyblaea also contained a similar vase. The same polish was observed on a lekythos from the Heraeum (height, 0.05 m.), of dark gray clay, the shape rather advanced, being that of the lekythos on p. 127, fig. 54. At Syracuse (tomb 428), a specimen exactly identical was found along with lekythoi belonging to the oriental Argive period. The vases found

by Wide at Aphidna (*Athen. Mitt.* p. 385 ff. pl. xiv.) seem to show a similar technique, but are not so advanced in form. It would seem fairly safe to assign both our vase and that from Syracuse to the period succeeding the Mycenaean style.

² Vide Furtwängler, *Arch. Anz.* 1893, p. 9.



Fig. 36.

Fig. 36. Height, 0.112 m. Found east of the Northwest Building. The base is thicker in proportion to the opening than in most of our vases of this type.

Fig. 37. Height, 0.044 m. This would seem to be a prototype of the oinochoe form which is so common during the Argive period (p. 128). It is the commonest type of these small vases, and at least forty other specimens were found. I have noted several other examples, two in Syracuse (Syracuse, tomb 305, and Megara Hyblaea, tomb 65) and three in the Louvre (Room A, case N, 496, 497, 498) from Attica. Those from Syracuse and Megara Hyblaea were found with vases of the second Argive period.

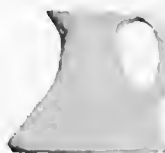


Fig. 37.

Fig. 38. Height, 0.74 m. Oinochoe. Burnt in parts to a brilliant red. The base is slightly flatter than most of the oinochoai of this type, but otherwise shows no important variation.

About a dozen oinochoai were found. One example, wheel-made, was remarkable for the handle rising above the rim and having two small breast-like protuberances on the shoulder, a somewhat unusual feature on vases of the Mycenaean epoch.



Fig. 38.

Three-handled Jugs.

Twenty or thirty of these were found, but save for the addition of a small handle on each side of the body they differed in no way from the one-handled jugs already described. The trefoil lip does not occur. They are all smaller than the one-handled jug, the highest not measuring more than 6-7 cm.

II.

With Decoration.

Two types may be noted, as in the undecorated jugs. (a) those with one handle; (b) those with three handles.

Of the one-handled jugs, almost all followed the same type with but slight variations, the opening being circular and the neck broad or narrow. The trefoil lip was seen only in a few examples. The decoration on all is practically the same, lines around the body with a zigzag or wavy band on the neck in some cases.



Fig. 39.

Fig. 39. Height, 0.105 m.; diameter of opening, 0.069 m. (form, *Myk. Vas.* XLIV. 65); grayish clay with a greenish tinge, black decoration. On neck zigzag band, with parallel stripes on neck, body, foot, and inside rim. On shoulder opposite the handle dotted rosette.

This is by far the best specimen of the type and the most advanced. The clay is not quite so characteristically Mycenaean as in some other cases, but it cannot very well be included in the Geometric or Argive classes.

The three-handled jugs were the most numerous, as several hundred were found, and seem to belong to a later period. The form does not

seem to be Mycenaean, while the quality of the clay is decidedly inferior. But as this principle of decoration is practically the same as that already considered, these vases are properly to be discussed here. The shapes are fairly uniform, though slight variations may be detected in the height of the neck, size of the handles, fullness of the body, separation of the foot from the body, etc.

The decoration follows a consistent scheme, in that the body is reserved for parallel stripes or bands and the shoulder for other motives, as rays, vertical lines, wavy bands, zigzags, rosettes, etc. The neck is occasionally ornamented in similar fashion.

Fig. 40. Height, 0.09 m. Coarse reddish clay, with red decoration. Parallel stripes on body, with rays on shoulder. Stripes inside rim and on handle. The foot is separated from the body.



FIG. 40.

Fig. 40 is a typical example of the class. About half of these vases have a flat base, without a foot.

Two-handled Vase.

Fig. 41. Height, 0.05 m. Yellowish clay, with dull brown decoration. Two handles (restored), with a hole running through the sides; no opening in the top.

I have been unable to find any example similar to this vase. It must be regarded as a mere freak of the potters' art, with no definite *raison d'être*.

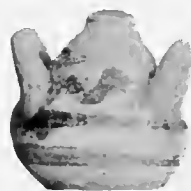


FIG. 41.

CHAPTER III.

THE GEOMETRIC STYLE.

It would seem at first sight as if vases of the Geometric style were the most numerous at the Heraeum, since their fragments filled about twice as many baskets as either those of the Mycenaean or Argive styles. But as Geometric fragments are generally fairly large in size, since they belong to large vases, and the Argive fragments extremely small, it was found that the actual number of vases represented by Argive fragments was considerably larger than those represented by the Geometric.

For many reasons an intelligent presentation of the Geometric fragments has proved extremely difficult. Owing to the larger size of the vases, hardly a single one was found intact, and in no case could more than a third of any vase be reconstructed, though some vases were represented by several hundred fragments apiece. Although the number of shapes represented is extremely large, many are so closely allied to each other — the chief variations being in the number of handles, the shape of the neck, etc. — that, without the whole, or at least the greater part of a vase, a systematic classification based upon shapes becomes difficult, if not impossible. Then, too, almost the entire surface of the vase is covered with a decoration combining many different motives, and in such a case it was difficult to decide which fragments should be presented and which not, since there was danger, in a classification based on ornamentation alone, of treating separately motives which belonged to the same vase. Finally, hardly a single new type of this style was found at the Heraeum; the decoration on almost every fragment represented may be paralleled by dozens of vases scattered through the museums of Europe.

The style also presents this peculiarity, that it is far more conservative than any other

style, and seems less susceptible to progressive ideas. The Heraeum fragments, which probably cover a period of two centuries, are marked by their monotony and consistent adherence to a general scheme. Types are to be distinguished, of course, but such a classification as proved practicable with the Mycenaean and Argive styles becomes impossible here.¹

The fragments here presented illustrate the development of the various motives so extensively employed. At the same time this classification has been adopted solely as a working hypothesis, since the nature of the material forbids even an approach to finality; that can only be secured by a classification based upon material larger, more comprehensive, and in better condition than that furnished by the Heraeum.

As the character of the decoration on our fragments is practically identical with that of Dipylon ware, the question immediately arises whether our fragments were made in the Argolid or imported from Attica, since no other districts can well claim their manufacture. Though certainty on this point is impossible, the evidence seems to point to the former hypothesis. Fragments of this style have been found at both Mycenae and Tiryns in large quantities, showing that the style was a common one in the Argolid. As the amount of Mycenaean ware found there is so large as to point to a very flourishing vase industry, there seems no valid reason why Geometric ware should not have been manufactured there also. Lastly, the clay of the Heraeum fragments is heavy, carelessly cleaned, and of a yellowish or greenish tinge, while that of the Dipylon vases is lighter, cleaner, and of a reddish shade; the decoration also of the Heraeum fragments is in general of a duller lustre and less decided in its character than the Attic.

One of the radical points of difference between the Mycenaean and Geometric styles lies in the clay, and the difference is especially apparent to the touch. The quality of the grain in the Geometric is far coarser than in the Mycenaean vases, and never, even in the best examples, does it attain to the lightness and smoothness of the latter. Whether this difference results from the employment of clay from a different bed or from different technical methods in its preparation, I am unable to say. But as the difference between the clay of Mycenaean vases found in Attica and the Dipylon vases is just as great as in the case of our fragments,² it does not necessarily argue that none of our Geometric vases were manufactured in the Argolid; it would rather be a cause for wonder if they were not made there.

It can hardly be said that the Geometric fragments from the Heraeum throw much light on the vexed question of the origin of the Geometric style in Greece. Up to the present moment three widely different views have been proposed: (1) the old view, which has now, I think, been generally abandoned, that it was the result of some Eastern influence (Egyptian, Carian, or Ionian); (2) the view expressed by Furtwängler and Loeschcke, that the style was the result of the Dorian invasion; (3) the last and most radical view, advocated by Wide and Wolters, that the Geometric style is an autochthonous growth, a "Bauernstil," as opposed to the "Herrenstil" of the Mycenaean civilization, and the direct result of the primitive forms of decoration, but subject to some external influence which may have been supplied by some such movement as the Dorian invasion.

¹ Since the above was written, Dr. Wide's analysis of the Geometric style has appeared in the *Jahrbuch* for 1899 (pp. 26 ff., 78 ff., and 188 ff.) and 1900 (p. 49 ff.). It may be readily seen that such an arrangement as that adopted by Wide is out of the question with the material from the Heraeum, for the reasons given above. At the

same time an effort will be made to mention all the types cited by Wide which could be identified among the Heraeum fragments.

² See p. 65, note, on the results of Dr. Washington's investigations touching this point.

From Wide's investigations at Aphidna, his contention that the primitive elements for the Geometric style are to be found in Greece seems to be satisfactorily established; also, from his analysis of the survival of Mycenaean motives in the Geometric style (*Athen. Mitt.* XXII. (1897), p. 233 ff.), it may be easily seen how close is the connection between the two styles. But neither theory is sufficient to account for the true Geometric style, which, as he admits himself, does not show the transitional stages of development which were to have been expected if the style were derived directly from the Mycenaean.

For the Heraeum fragments it must be said that only a few scattered specimens (e. g. PLATE L. 15, 16, and 17) show the existence of Wide's pre-Dorian elements; such specimens, however, are more in line with Professor Waldstein's linear theory, and are not good examples of the "Bauernstil." That a small number of fragments, which, though Geometric as far as clay and technique were concerned, also show distinctly the survival of Mycenaean motives, points to a close connection between the two styles. At the same time, the difference between such fragments and those of the pure Geometric style is so great that it is difficult to believe that the Geometric style could possibly have originated as the natural sequence of such prototypes.

The need for some decided infusion of fresh ideas is the chief obstacle against the entire acceptance of Wide's theory. As we can hardly assume that the finished Geometric style is the natural outcome of previous conditions, subject to no outside influence, we must seek some reason for such a phenomenon, and of all the solutions offered, the theory of the Dorian invasion seems to my mind the most satisfactory.

While the actual occurrence of such a migration has never been conclusively established, it is generally agreed that some great upheaval took place in Greece during the eleventh century B. C. Certainly all the phases of the civilization which succeeded the Mycenaean period show a radical change of style, which can hardly be accounted for by a purely natural and unaided development. It is too much to assume that the people who brought about such a change were necessarily identical with the people of the "Hallstatt" period, though the similarity between objects of that period and the Geometric style is extremely striking. As the Geometric style is found at the Heraeum practically full-grown (as is also the case in Attica), it remains to be seen whether some external movement can account for its growth.

Now, granting for the moment that the Geometric style could have developed in Attica along the lines laid down by Wide, the same can hardly be true at Argos; were such the case we should certainly expect to find a steady and continuous development from primitive or Mycenaean times. The linear theory for the origin of the Argive style can hardly apply here. Since an autochthonous growth can scarcely account for the style at the Heraeum, some external influence is absolutely necessary. It would seem that at a time when the Mycenaean civilization in the Argolid was on its decline there appeared a new influence, which effectually finished the Mycenaean civilization, and brought in with it no new elements (since almost all of them had been in use before), but a new and radical combination of those elements. Seeing that these elements are linear, and thus characteristic of *all* peoples during the primitive stages of their civilization, it matters little who these people were, though they may well have been the Dorians; the main point is that they brought with them a new style, or new arrangement of motives already in use. It is hard to see how any other explanation can account for the rise of the Geometric style in the Argolid; with Attica the case is not so evident.

We have already pointed out that, except for a few slight technical differences, the Geometric style in the Argolid is practically identical with that of Attica. If we assume that Wide's theory of an autochthonous development for the style in Attica is true, and that some external influence created the style in the Argolid, we are confronted by a most surprising contradiction of facts, — that two different influences at work in two different places should produce substantially the same results. Theoretically such a case might be possible, but not practically; one influence must be responsible for both styles.

Therefore it does not seem difficult to assume that this external influence (if Dorian it be) was felt in Attica as well as Argos. Such a theory would supply the lacuna, which Wide admits, in the complete development of the style, and does not preclude the existence of an earlier, primitive Geometric style in Attica. Although the Attic historians always claimed that Attica had never been overrun by the Dorians, the legend of Codrus shows that she was not untouched by their movement, and there seems no reason why the legend of the movement of some tribe against the Attic frontier should not be symbolical of a steady movement from the Peloponnesus along the shores of the Saronic gulf to the very confines of Attica.

To assign a chronology to these events is impossible. They cannot have taken place at once, but were probably spread out over half a century. But while by this reasoning the Dipylon style is shown to be slightly younger than the Argive Geometric, it is not implied that the former is the result of the latter, but that it is the result of the same principle as the latter which first made itself felt in Argos, and finding the conditions in Attica practically the same, naturally accomplished there the same results.

The relation of the Geometric style to the Argive, with which it is closely connected, will be discussed in chapter IV.

In the Argive Geometric fragments three distinct types may be detected: —

- I. The earliest or transitional stage from the Mycenaean.
- II. Purely Geometrical style.
- III. The introduction of animal and human figures, *genre* scenes, and development of bands of figures.

CLASS I.

TRANSITIONAL STAGE.

Fragments of this class were not very numerous, and, as no vases were preserved entire, they do not lend themselves to a satisfactory arrangement. Two variations of this class were noted, — fragments of distinctly Geometric clay with Mycenaean ornamentation, and fragments of Mycenaean clay with Geometric ornamentation. At the same time the scheme of decoration is treated rather from a Mycenaean than a Geometrical standpoint, and it cannot be assumed that these fragments are the result of the new influence; it is most probable that they mark the low ebb to which the Mycenaean style was sinking, as the fourth class lustrous finish declined. The difference in the clay would seem to show, either that at the end of the Mycenaean period some change had been made in the preparation of the clay, or that for some reason it was taken from different beds. However, in view of the similarity in clay of all Geometric vases, wherever found, it seems more likely that the difference between it and Mycenaean clay lies solely in the manner of preparation.

If, therefore, this change in the preparation of the clay took place before the Dorian invasion, the Geometric style is simply the supplanting of the Mycenaean motives by purely Geometrical ones.

Wide has endeavored in his article on the survival of Mycenaean motives in the Geometric style (*Athen. Mitt.* XXII. [1897], p. 233) to trace the development of the various motives which had their origin in the Mycenaean style during the later period. I cannot, however, agree with his assertion that the centre of the Mycenaean activity lay in the islands. Wide bases this claim on the supposition that the vases which show this connecting link between the Mycenaean and Geometric styles have been found only on the islands. Such a supposition cannot now be entertained, since not only are many of these types to be seen on our fragments, but also on vases recently found in Attica. Of the motives mentioned in Wide's article, the following occur at the Heraeum on various fragments mentioned below. (The page references are from Wide's article.)

Toothed wheel and star (p. 235, fig. 3).

One-handled-jug (p. 237, fig. 5). Numerous fragments of jugs with precisely similar decorations were found. Also several handles with a plastic snake.

Amphora (p. 238, fig. 6). Fragments of similar amphoras were extremely numerous at the Heraeum. Dozens of fragments belonging to rims showed a lozenge chain, with or without a central dot. Equally numerous were the lozenge chains formed by interlacing lines, the rhomboids (single) and "Running Dog" patterns.

(P. 238, fig. 7.) Several fragments from the shoulder of a vase showing similar decoration were found. The form is uncertain, but as the base of a spout was apparent, it is probably a jug similar to the Mycenaean ones with one handle. The clay is coarse and of a dark red color. The decoration on both shoulder and belly consists of a net pattern (not a meander, as in the Munich vase), the spaces filled by rosettes or dotted lozenges. Under the base of the spout is a leaf pattern.

(P. 240, fig. 8.) Circles with cross in the centre, arranged singly in pairs or in series, were among the commonest types on the Heraeum fragments.

(P. 244, fig. 14 *a.*) Several fragments with this motive were found.

(P. 246, fig. 17.) At least a hundred fragments from the rims of large bowls showed this combination of a wave pattern and dotted circles.

The preceding enumeration of the various types is valuable as showing the occurrence of Wide's types at the Heraeum. The following fragments are here introduced to show the use of Mycenaean motives on a Geometric clay. It must be remembered, however, that the difference in clay is hardly perceptible in the plate; in all these fragments it is generally greenish or yellowish in tone (sometimes reddish), coarse in quality, and not very carefully cleaned, never possessing, except in a few cases, the smooth surface so characteristic of Mycenaean clay.

PLATE LVI.

1. Fragment of a large vessel, probably an amphora. Coarse yellow clay; decoration varying from dark to light brown. Checkerboard and circles.

The quality of the decoration resembles the Mycenaean more closely than does that of any other fragment. We have here the circles (as in Wide, *loc. cit.* p. 244, fig. 14 *a.*) with the Geometric checkerboard. Both are treated in a slightly freer fashion than we shall find usual. Several other similar fragments were found.

2. From a bowl. Reddish clay, with a yellow slip. Spirals in dark red.

3. The same. Red glaze on interior, bright red decoration.

4. The same: coarse yellow clay. Red decoration.

2-4 show the employment of purely Mycenaean motives on Geometric clay.

5. From rim of large bowl. Greenish yellow clay, with bands on interior below rim; brown decoration very faded.

The Mycenaean spiral is here preserved intact.

6. Greenish clay, with light brown decoration. Combination of zigzags and Mycenaean flower branch (cf. Wide, *loc. cit.* p. 242, fig. 12 *a.*). Fragments with this combination were very numerous.

7. Light brown clay, with polished surface. Lustrous brown glaze on interior.

This fragment is extremely curious, since beside the zigzags it has the eye, nose, and hair of a human face with a rosette beneath. A similar instance is unknown to me.

8. From large vase, probably an amphora. Dark yellow clay, with decoration varying from greenish brown to black.

9. From rim of amphora. Greenish clay.

10. From a large bowl. Brick red clay, with red glaze on interior. Red decoration faded. Rosette and zigzags.

Fragments similar to 8 and 10 were very numerous (certainly a basket full) and seem to constitute the earliest essays in the Geometric style proper. While the clay is coarse, it has been covered with a whitish slip (as in Mycenaean vases) and the decoration applied rather thinly without any lustre. Some of the fragments had a dark brown glaze on the interior, which, together with their size, seems to show that they belong to amphoras or bowls. Outside of the Heraeum this ware is not common; the nearest approach seems to be a variety found at Syracuse. On none of these fragments was any decoration found which included the human or animal figure, the established scheme being straight lines and zigzags. In fact, on Argive Geometric vases the use of the zigzag seems to be carried to a far greater extent than in Attic work.

Besides the motives already mentioned, we find wavy lines (for rim and shoulder), rays, rosettes, lozenges (entirely black), and a single zigzag line used exclusively on the rims of bowls.

Further, we may mention a number of fragments (chiefly handles and necks) which seemed to belong to amphoras similar to those in *Jahrbuch*, XV. (1900), p. 51, fig. 107, the only decoration being a wavy band on the neck and stripes on the body and handles. These fragments evidently belong to Class I.

CLASS II.

PURELY GEOMETRICAL TYPES.

Fragments with purely Geometrical ornamentation formed the bulk of this style at the Heraeum. The vases are almost entirely covered with a brown glaze (in the case of bowls the glaze is also used on the interior), with a series of parallel bands running round the body, which in many cases formed the sole decoration. The principal motives are placed on the shoulder, neck, or rim, and consist generally of a meander pattern arranged singly or in series. These meanders are formed by single lines, or by double lines with a series of short parallel cross-lines, straight or diagonal, between them, which give the effect of shading. In some cases the cross-lines are omitted. Other motives are : —

Zigzags, singly or in series. These are either drawn in a single line or else double, with a shading of cross-lines as in the meander patterns.

Checkerboards. These are treated in a variety of ways. The simplest form is a series of squares, alternately black and plain (i. e. the natural color of the clay). Variety is secured by the insertion of a lozenge into the plain squares, or else shading the black squares by a network of lines.

Rays. Generally in series around the base or rim. These are either in outline, black, or of interlaced lines. In some cases the rays are drawn in double outline, with a row of dots between the lines.

Wave pattern. Generally a single broad line, sometimes with the addition of a dotted row on each edge. This, an original Mycenaean motive, eventually develops into the Geometric snake.

Lozenges. In their most elementary form as a rhomboid, such as is found on Mycenaean vases of the fourth class. Generally in the Geometric style we find them in chain, with or without a

central dot. Owing to carelessness or hasty technique the chain often resembles a series of ovals.

Net pattern. In many cases this is nothing but a lozenge chain in parallel lines, the whole giving the motive its net-like appearance.

Circles. Generally two or more concentric circles, with a central dot, singly or in series, sometimes connected, sometimes not.

Rosettes or stars. Generally treated in series, either as an independent band or else as a border to the wave pattern. Cases occur, especially in plates, where the rim is surrounded by a border of leaf or flower petals, with a shading of lines.

Pot-hooks. As in early Attic work.

"Running Dog." Generally used on the rims of bowls.

Guilloches. Generally on the base of a vessel with a tall foot.

Swastikas. As ornaments in field.

Dotted lines. Used as a variation of the plain circular band.

Since none of these motives are new in the Geometric style, and as no peculiar combinations of them occur on our fragments, none are given in our plates. All these motives may be found on vases where "animal" motives are introduced; at the same time a large number of fragments show clearly that this animal decoration does not occur on a great part of the vases.

As practically none of the vases are preserved intact, any list of the various forms found must be incomplete. Roughly speaking, the following shapes were represented by fragments: —

Amphoras.	One-handled jugs (<i>oinochoai</i>).
Bowls (<i>skyphoi</i>).	Plates.
Bowls with a tall foot.	Cups with one handle.

The rarer forms will be discussed later when dealing with their fragments.

CLASS III.

THE INTRODUCTION OF HUMAN AND ANIMAL MOTIVES.

The third class of the Geometric style is by far the largest, not only at the Heraeum, but in almost all the other places in Greece where the style is found. The introduction of the human or animal figure must have taken place at an early period, though hardly at the very beginning of the style. It is true that we find these figures in the fourth class of the Mycenaean style, but their treatment differs materially from that usual in the Geometric period. Moreover, the Geometric types which are certainly the oldest, such as the transitional types found on the islands (cf. Wide, *loc. cit.*) and those more recently discovered in Attica and Corinth, exhibit pure Geometric decoration, with no traces of a human or animal motive. At the same time, no great chronological distinction can be demanded between Classes II. and III. of the Heraeum fragments, since the scheme of ornamentation, except for the introduction of human or animal figures, is practically the same in both.

The variations of the different motives in Class III. are numerous, but their development seems fairly clear. We find two distinct groups.

1. Where the motive is treated simply with few, if any, ornaments in the field.
2. Elaborate treatment of the motive and wealth of ornaments in the field.

By all general laws of art, fragments in the second division are younger than those in the first, since the *horror vacui*, as exemplified by other styles, is the result of a realiza-

tion of the fundamental principles of art, without the ability to attain the end desired. Exceptions may be found, since some fragments show a decided lack of ornaments in the field combined with a technique extremely advanced, but such fragments are not so common as to warrant the reversal of our order. We must either assume that they are exceptions to the rule or else that they are merely advanced specimens of the first division, contemporaneous with the second, but still, through conventionality of taste, adhering to the earlier principles.

The choice of subjects in both divisions is the same. While the greater part of the vase is occupied by purely Geometrical decoration, the key-note of the ornamentation consists of one of the following types: —

A. Birds.

- a.* In friezes (water birds).
- b.* As the principal subject, singly or in groups.

B. Horses.

- a.* Singly or in frieze.
- b.* "Heraldic" scheme.

C. Men.

- a.* In frieze.
- b.* "Heraldic" scheme.
- c.* "Genre" scenes (hunting, rowing, fighting, etc.).

D. Women.

- a.* In frieze.

E. Miscellaneous.

Deer, dogs, and other animals, usually in frieze, but often introduced as ornaments in field.

A. Birds.

The bird as a motive of decoration is not only the most common one in the Geometric style, but there is good reason for assuming it to be the earliest of the motives included in Class III. It is found on many fragments which through their primitive technique appear to belong to the earlier period of the style, where the other animal motives are wanting. We find it as a common feature on Mycenaean vases of Class IV., though treated in a different fashion, showing that the motive is not original in the Geometric style. But as the similarity between the earliest type of the water bird frieze in the Geometric style and the band of vertical zigzags common on the rims of Mycenaean bowls is so marked, there is reason for supposing that while the bird itself was borrowed directly from the Mycenaean fourth class, its arrangement in a frieze was suggested by the use of the zigzag band.

Fragments having this water bird motive were extremely numerous, belonging to the rims of small bowls around which ran a frieze of birds.¹ The earliest examples are mere zigzag lines, the later more elaborate, the figure of the bird being shaded by cross-lines, and the head and beak more sharply defined. Ornaments in field are then introduced, principally dots, rosettes, and zigzags. Soon after the introduction of the frieze the bird itself becomes the real subject of decoration, but rapidly passes to the position of an ornament in field itself.

Some slight differences may be detected in the various birds, but it is of little use to

¹ As on a skyphos said to come from Mycenae (*Jahrb.* the Geometric vases from the Heraeum, there can be no XVI. [1899], p. 85, fig. 43). From the close similarity to doubt that the vase referred to comes from the Argolid.

try and identify them with any particular species. As some have a tuft of feathers at the back of the head, they may perhaps represent cranes or herons.

PLATE LVI.

a.

11. Rim of bowl; black glaze on interior.

This is the commonest type of the frieze, and was found in very large quantities at the Heraeum. The type is too common to cite any further examples.

12. Rim of bowl; dark brown glaze on interior. Treatment of bird more elaborate, the body being shaded by cross-lines, zigzags in field.

13. From large bowl with dark brown decoration on interior. Brown decoration rather faded. Stars in field; above zigzag band and meander.

The birds are shaded as in **12**, the tails sharply defined. It is noteworthy that the birds are alternately large and small,¹ a feature I have not observed elsewhere. The use of the star as an ornament in field is by no means usual.

14. Birds treated rather freely. Cheeker square in field.

15. The birds are here represented with heads down, feeding; this type, though by no means rare, is not as common as the type that is represented by **11-13**.

b.

In Group **b** the water bird becomes the chief feature and is generally treated in a simple fashion, the bird standing alone in the centre of a panel formed by vertical and horizontal lines. A transitional type from **a** was observed in the case of several fragments from the neck of a large vase (probably an amphora) where a row of birds was represented, each one separated from the other by two patterns, one consisting of two upright lines with horizontal lines between and the other a vertical guilloche treated as a silhouette. The technique was poor and the birds drawn as silhouettes without any shading. Other cases were observed where the panel was bounded by rows of horizontal zigzags one above the other.

16. From a bowl about 17 cm. in diameter; height cannot be determined. Dark red clay. Brilliant black glaze on interior, black decoration. Several other fragments found.

The bowl seems to have been divided into four panels, the intervening spaces being filled by a meander pattern (not visible on **16**). The birds are treated as silhouettes. The ornament in field is a common one in this style.

17. From a large vase. Brick red clay, with decoration varying from black to brown. The birds are more elaborately treated with stars as ornaments in field (cf. No. **14**). From several other fragments belonging to the same vase it seems probable that the birds were the principal theme, the rest of the vase being ornamented with purely Geometrical motives.

The ornaments in the field on most of the fragments of type **b** are lozenges, zigzags, concentric circles, stars, etc. The treatment of the water bird as an ornament in the field will be discussed later.

B. Horses.

One of the most characteristic features of the Geometric style is the fondness for representing horses, either singly, in pairs ("Heraldic" scheme), or attached to a wagon. The horse in Greek art was a well known feature before this period; one recalls the grave stelae, and the sword blade from Mycenae. Also on Mycenaean vases of the fourth class the horse may be found, although not so often as to assume that the animal

¹ A bowl from Boeotia (*Jahrb.* XIV. [1899], p. 83, fig. 40) shows two large and two small water birds, which are arranged in a panel, and not, as here, in a frieze.

was a great favorite with the Mycenaean potters. To account for its popularity during the Geometric period is difficult. From the Homeric poems we know what a part was played by it in the Mycenaean civilization, so that we cannot assume a sudden increase of popularity for it during the later period. The chief point of difference lies in the fact that during the Mycenaean period the horse is always used as a yoke-animal, never as a beast of burden. In the Geometric period we find frequent representations of the horse as a mount as well as a beast of burden. A very superficial study of the Mycenaean vases shows that the drawing of animals was more or less tentative, with rather unsatisfactory results. Of course the Vaphio cups show that it was possible for the Mycenaean artists to reproduce animals with wonderful accuracy, but then the toreutic art of the Mycenaean period is far in advance of that of the vase painter. Hence we can only assume that an increase of skill in drawing on the part of the vase painters was responsible for so many representations of horses on Geometric vases. Being a common factor in the life of the period, it could not be ignored. But it is certain that the horse did not become popular until the Geometric style was firmly established, since it is not found on the earliest vases of the style.

a.

18. From rim of large bowl. Dark red clay, with brown glaze on interior. Head and rear part of two horses. On the inside, below the rim, a band of vertical and horizontal lines crossing each other at right angles. No ornaments in field.

Numerous other fragments having a single horse, or a band of them, were found, but all in bad condition, showing in most cases only the head or hind-quarters of the animal.

19. Part of the foot of a large bowl. Red clay, with darker core, lustrous black and brown decoration. Frieze of horses, with rays, stars, *swastikas*, etc., as ornaments in field. Below, two zigzag bands (shaded). Separated by a moulding appears what may be another similar frieze.

Though the shape of the base cannot be determined, it is probably a large bowl mounted on a tall foot, somewhat similar in character to one in Athens (*Jahrb.* XIV. [1899], p. 81, fig. 37), but with a taller foot.

The majority of the fragments with a frieze of horses had a wealth of ornaments in the field. The type of horse was generally the same in all, the only difference lying in the quality of the execution. One fragment (without ornaments in the field) showed a frieze of horses grazing.

20. Greenish clay, with dark brown decoration. Horse in panel. Duck, meander, *swastikas*, and zigzags as ornaments in field. Above, zigzag band (shaded).

The treatment of the horse by itself in a panel is not as common as in the case of the birds. Only a few other similar fragments were found. The bird is here used as an ornament in the field. Whether the zigzag which falls from the bird's beak is intended to represent a worm is uncertain. It is of frequent occurrence, not only on the Heraeum fragments but on Geometrical vases found elsewhere.

b.

The representation of two horses facing each other in the so-called "Heraldic"¹ scheme is of common occurrence on vases of this style. The symmetrical arrangement of motives in this same scheme was a characteristic of the Mycenaean fourth class. The usual arrangement called for the figure of a man between the two horses; however, it is

¹ For a discussion of the "Heraldic" scheme, see Curtius, 'Wappengebrauch und Wappenstil im Alterthum,' *Gesammelte Abhandlungen*, II. pp. 110 ff.

certain from other fragments belonging to the same vases as **21** and **22** that the space between the horses was occupied by ornaments in the field, and fragments from other vases show this same peculiarity.

As the treatment of the horse is that peculiar to the style, no further comment is necessary. Only a very few fragments showed a lack of ornaments in the field; the greater part have a very elaborate series of ornaments, with many variations. In each panel (the group is almost invariably in panel form) five spaces may be found, two above and two below the bodies of the horses, and one between them. The filling of the latter space by a human figure will be discussed later. The most usual ornament in the spaces above the bodies is a simple meander or zigzag, sometimes combined. Besides these we find rosettes, lozenges, squares, crosses, circles, etc., in fact, all the common Geometric themes. Water birds are occasionally introduced, singly or in a row.

The space beneath each body is usually occupied by a fish or a water bird; the other Geometric motives are often used, but by no means with the same frequency. In case the space to be filled is a very large one, half meanders, crosses, rosettes, etc., are employed as filling around the body of the fish or bird.

21. Reddish clay, with red brown decoration. Noticeable is the object beneath the horse's belly, a shaded half circle with lozenge chain. Several other fragments of this vase were found.

22. Coarse greenish clay, with greenish brown glaze on interior, and brown decoration. Row of water birds above on a dotted meander. Between the hind legs a water bird, between the fore legs a vertical "Running Dog" pattern. Beneath the belly a square containing a rosette. Several other fragments of this vase were found.

C. Men.

Although the human figure is introduced into Mycenaean vase-painting, its use there is not very common. As the earliest examples of Geometric vases do not employ it, there is good reason to believe that not until the later period of the style was its use at all universal. Once introduced, however, its development was rapid, and in the latest examples of Geometric ware we find the human figure as the chief motive of decoration.

Among the Heraeum fragments this motive plays a large part. At the time of its introduction the use of ornaments in the field seems to be firmly established, and fragments with human figures, but without ornaments in the field, are rather scarce. Such cases as do occur are marked by an advanced technique, which forbids their belonging to the earlier period of the style.

a.

Whether the introduction of the human figure in the "Heraldic" scheme between two horses is earlier than in the frieze cannot be told. The former is by far the more common, and on the Heraeum fragments is the most usual motive. The general type is always the same: a nude male figure, in profile, holding a horse with each hand,¹ either by a halter, or else grasping the horse's nose. Such variations as occur lie in the different ornaments in the field and in the treatment of the man and horse — either less or more advanced.

PLATE LVII.

1. Light reddish clay, with decoration in light brown. This is probably one of the earliest instances of the type, the figures being hardly more than a series of straight lines such as a child might draw.

2. From a large vase. Dark red clay, with brilliant dark red decoration. Here the hips and

¹ *Ann. dell' Inst.* 1872, tav. d'agg. I. 1; *Jahrb.* XIV. (1899), p. 34, fig. 12.

legs of the man are treated more naturally, and the distinction between the nose and chin sharply emphasized.

3. Clay and technique similar to PLATE LVI. 19, but rather more advanced in style. The legs are here extended beyond their natural length, and the calf is sharply marked. Meanders as ornaments in field.

4. From a very large vase, perhaps an amphora. Reddish clay, with dark red decoration. At least a dozen other fragments belonging to this vase were found, showing that the horse and man were treated in panels, and the rest of the vase ornamented in the usual Geometric fashion. The head of the man has a very curious headdress, and the neck ridiculously lengthened. Such exaggeration is not common. Fish as ornament in field.

It sometimes occurs that a man and one horse are represented in a panel, the man leading the animal. As such cases generally have a corresponding group on the other side of the lines bounding the panel, it cannot well be called a *genre* scene, although the "Heraldic" idea does not appear so prominently.

5. Reddish yellow clay, with dark brown decoration. Here a distinct profile is given to the man. For the object in his left hand, which may be a staff, I know of no parallel instance on Geometric vases.

6. From a bowl; reddish clay, with dark red glaze on interior, red decoration, fairly lustrous. Rim sharply separated from the shoulder. Wave pattern on rim.

In spite of the extremely archaic appearance of this fragment we cannot but assign it to the later period. The eye of the figure is clearly defined, and an attempt is also made to show the fingers. It is uncertain whether the object in the figure's left hand is a whip or a halter.

b.

The use of the male figure treated singly or in a frieze is not as common on the Heraeum fragments as on the Dipylon vases.

7. Rim of bowl. Dark red clay, with lustrous dark red glaze on interior. Clay shows traces of burning. Frieze of men to right; the right-hand figure holds a kithara in his hands.

That the object in question is really a kithara¹ would seem certain. That held by the terracotta figurines from Keros (*Athen. Mitt.* IX. p. 156, pl. vi.), which is thought by Koehler to be the *sambuka*, is probably the earliest instance of a lyre in Greek art. This fragment, however, would seem to show one of the earliest instances of a lyre in vase painting.

Friezes of men, especially on the rims of bowls, were quite common at the Heraeum, and were found on numerous other fragments.

Another type, though found on but a few fragments, in bad preservation, is a frieze of warriors, the shield² covering the entire body, and the two spears projecting diagonally upwards from the shield on each side of the head.

8. Rim of bowl; greenish clay, with black decoration. The figure undoubtedly formed part of a frieze.

This fragment is probably one of the later essays; the nose and chin are sharply defined, and the eye is incised. The body seems to be covered with a cloak.

9. Reddish yellow clay, with lustrous brown red decoration. Bodies of two men joined together; double axe and stars in field.

At first sight it would appear that the artist had tried to represent some monster of the Geryon

¹ Cf. the fragment from Amyklæ (*Jahrb.* XVI. [1899], p. 84, fig. 42), and an early Attic vase, Baum. *Denkmäler*, p. 1948, fig. 2078.

² One or two of our fragments showed round shields, as on a vase in Athens (*Jahrbuch*, XIV. [1899], p. 197, fig. 61). Several had only the upper part of the shield

preserved, which had a pattern of dots below the rim. Judging by the skyphos from Eleusis (*Ἐφεσμ. Ἀρχ.* 1898, pl. v. 1), it seems most probable that the shield was of the Boeotian type, which is fairly common on Geometric vases. Cf. *Jahrb.* XIV. (1899), p. 85, fig. 44.

type. The most probable explanation is that two figures, one behind the other, were represented, and that the artist, having no knowledge of perspective, got decidedly mixed in his drawing. The double axe is quite a common ornament in field, but whether there is any connection between this ornament and the Labyrinth in Cnossus (the house of the Double-axe, according to Evans) is decidedly problematical.

c.

Fragments representing *genre* scenes at the Heraeum were comparatively scarce. As a rule the technique of such fragments is slightly better than the average. That such should be the case is not surprising, since in a style like the Geometric the introduction of *genre* scenes would come only after the treatment of the ordinary motives had been thoroughly developed and some new treatment was demanded.

10. From a large bowl; reddish clay, with lustrous dark brown decoration on interior; decoration a brilliant brown.

A battle scene is evidently represented. The central warrior is preparing to shoot an arrow, and it may be presumed that the other two figures are about to do the same. At the right of the fragment is the foot of a fourth warrior. On the left an arrow as an ornament in field.

The treatment of the bow is precisely identical with that on the fragment of the silver vase from Grave IV. at Mycenae (Tsountas, 'Εφην. 'Αρχ. 1891, p. 19, pl. ii. 2), and the Mycenaean sword blade from the same grave (*B. C. II.* 1886, pl. ii. 3, 4). This would show that during the Geometric period the same bows were employed as in the Mycenaean epoch. A comparison of the figures on the large Dipylon vase in Athens (*Mon. dell' Inst.* IX. pls. 39, 40) shows that the arrow which seems to pierce the figure with the bow is supposed to be girded to the side¹ in lieu of a quiver.

11. Reddish clay, with lustrous red brown glaze on interior. Lustrous black decoration.

That a boxing match over a tripod as the prize of the contest is represented is the most probable explanation. At first sight it would appear that the left-hand figure is holding out some object to the other, but a closer examination shows that the object in question is really the figure's arm (since the fingers are denoted) very badly drawn. Similar contests are rare on Geometric vases. Cf. the bowl in Copenhagen (*Arch. Zeit.* 1885, pl. 8, 2), where a similar contest without the tripod is represented. (This fragment has already been published by Laurent, *B. C. II.* 1901, p. 150, fig. 3.)

12. Reddish clay with red brown decoration. Man in chariot driving. As three tails are visible, it seems probable that a quadriga was represented. Two other fragments showed the same scene, but not enough of the chariot to draw any conclusion as to its form.

13. Brick red clay, with brilliant black glaze on interior, black decoration. On the right the upper part of some animal; in centre, a man about to shoot an arrow (as in **10**); and on the left the prow of a boat, with the back of one of the rowers. Fishes as ornaments in field near the boat.

This fragment, as far as technique is concerned, belongs to a class which will be considered later. It is the only fragment found at the Heraeum on which a ship² was represented. The treatment of the boat, however, differs materially from the usual boats found on vases of this period. Only a portion of the bow is preserved, but it is plain that the stem of the vessel did not end in a sharp point, as in the modern ram, but was shorter and blunter. Also, the line of the bulwark curves backward instead of directly towards the bow. (Cf. Rayet et Coll. *Hist.* p. 29, fig. 20; Banmeister's *Denkm.* p. 1597, fig. 1658.)

No other fragments which could properly be included under the head of *genre* scenes were found.

¹ Whether this is a sword is extremely doubtful. Cf. *Athen. Mitt.* XVII. (1892), p. 219, fig. 7. On a skyphos from Eleusis ('Εφην. 'Αρχ. 1898, pl. v. 1 α) the warrior seems to be armed with both sword and quiver.

² For discussion of this motive, cf. Pernice, *Athen. Mitt.*

XVII. (1892), p. 285 ff. The prow of the galley on one fragment seems to be somewhat similar to that of the galley on a skyphos from Eleusis ('Εφην. 'Αρχ. 1898, pl. v. 1).

D. Women.

The female figure is treated in but one way on the Heraeum fragments — as part of a row of similar figures in a frieze. Though numerous fragments were found containing each a single figure, it is probable that such figures are only part of the regular row. All the figures followed the same type, and varied only in a few minor details. They are draped (no instance of an undraped figure, as on the Dipylon vase in Athens, already referred to, was found), and held a branch in their hands. From the waist to the feet outside of the garment are drawn one, two, or three parallel lines. No satisfactory explanation of these lines is forthcoming; they are not always used on Attic work, but on the Heraeum fragments no female figure is represented without them.

14. From a small jug. Dark yellow clay, with dark brown decoration. The surface of the clay has been dented in a rather curious way, perhaps intentionally.

It is uncertain whether the two figures here are inclosed in separate panels, or whether the vertical lines separate two friezes; the latter is more probable. This is one of the earliest fragments on which the female figure occurs.

15. Dark yellow clay, with black decoration. The heads are here seen *en face*, the hair forming a large bunch on either side of the face.

16. Similar clay and decoration. Heads are in profile, the nose and chin sharply defined. Cf. fragment in museum at Argos (*Jahrb.* XIV. [1899], p. 86, fig. 45).

In **14-16** the figures are treated entirely as silhouettes. We now find a series of fragments in which a pattern of squares or lozenges is marked on the skirt of the dress.

17. From a large bowl about 31 cm. in diameter. Dark red clay, with lustrous black decoration, burnt dark red in places. Inside the rim, series of four narrow and two broad parallel bands, the upper bands separated at intervals by vertical lines.

On rim, in centre a male figure jumping, behind him a water bird and lower part of a male and female figure; to right, five female figures carrying branches, and traces of a sixth. Below, meander pattern. Lozenges, *swastikas*, and rays as ornaments in field.

That a dance is represented here seems probable. It is certain that two rows of women were represented, that on the left led by a man. The ancient form of dancing is paralleled by the dances in modern Greece, where a row of women join hands with a man at the head. The jumping figure (cf. similar figure on the Copenhagen vase) and the water bird are probably used as ornaments in field to divide the two groups. The women have the usual series of tails, with a lozenge pattern on the skirt. The row ends at the side in a symmetrical fashion, as the left-hand figure of the row holds in her right hand an inverted branch; and on the extreme left of the fragment the lower part of a similar branch may be detected. It is probable that the man leading the left-hand group also held a branch in his hand, as in **19**. The treatment of the water bird is curious, a circular space in the body being filled by a *swastika*.

18. Dark gray clay, with brown decoration. Double lozenge pattern on the skirt. The eyes of the figure are denoted. The right-hand figure is probably the end of the group, as she does not hold a branch in her left hand.

19. Dark gray clay, with black decoration. Inside, lustrous black band. Checkerboard pattern on skirt. As in **17** the row of women is led by a man who, together with the woman, holds the usual upright branch, with the addition of the inverted branch in the woman's hand.

20. Dark gray clay, showing traces of fire. Black decoration and black glaze on interior. Dotted square pattern on skirt. It is doubtful if any tail is indicated. The object to the right seems to be the fore legs of a horse.

21. Red clay, with black decoration. The skirt is very thin at the waist, and flares sharply outwards like a bell. Two tails are indicated.

E. Miscellaneous.

Besides the animals already mentioned, we find others (generally deer) which are invariably treated in two ways — either as ornaments in the field, or else as a subordinate frieze. In many of the friezes, horses, birds, deer, etc., are combined.

22. From a large vase. Dark red clay, with lustrous red brown decoration; on interior, lustrous dark brown glaze. Frieze of deer to right, with zigzags as ornaments in field. Above, meander pattern.

As horses in the Geometric style invariably have long tails, it is certain that these are not horses. To represent the animals looking over their shoulder is the usual type. Variations occur where the four legs of the animals are bent sharply under the belly. (Cf. Copenhagen vase.)

23. Dark red clay, with brilliant red glaze on interior, decoration in dark brown. Horse and deer.

The deer is treated here as an ornament in field. It might be considered to be a foal, but the short tail is rather against such an assumption.

24. Light reddish clay, with black decoration. Lizard¹ or scorpion as ornament in field. What the other object represents is doubtful.

25. Light gray clay, with black glaze inside. Fishes and water bird. Whether this fragment belongs to a plate or the bottom of a shallow bowl is doubtful.

The animal on PLATE LVII. 13 may be a panther. No case of a dog occurs on any of the Heraeum Geometric fragments.

OTHER MISCELLANEOUS TYPES.

The common origin of all the fragments previously considered seems fairly certain. A small number of fragments were found which seem to form a class by themselves, and are much more closely related to pure Dipylon ware, being of a finer, cleaner clay, and with a decoration more lustrous and careful than the preceding fragments. It is possible that they may be simply examples of the best Geometric technique at the Heraeum rather than Attic importations. But beyond emphasizing the difference which exists between them and the other Geometric ware at the Heraeum, I do not venture actually to attribute to them an Attic origin.

All these fragments show a use of purely Geometric motives, the human or animal figure occurring but seldom. What period to assign them to is hard to say; on technical grounds they seem of later manufacture, but from their style and a comparison of ware recently found in Attica they seem to belong to the earlier period. To this class belongs the fragment with the boat, PLATE LVII. 13.

PLATE LVIII.

1. From rim of bowl. Reddish clay, with lustrous black decoration, brilliant black glaze on interior. Rim ends in a moulding, and the line between rim and shoulder is sharply defined. Meander pattern. On each corner a dotted circle. Several other fragments of this vase were found.

2. Brick red clay, with red brown decoration; glaze on interior varying from black to red. Usual Geometric decoration. Several other fragments of this vase were found.

3. Cover. Reddish yellow clay, with brilliant black decoration. Probably belonged to a vase similar to one in Herakleion in Crete (*Jahrb.* XIV. [1899], p. 37, fig. 15).

4. Dark red clay, with very brilliant black decoration, burnt red in places. Lower part of water bird frieze.

Several other fragments from different vases of exactly similar technique were found. The contrast between the red and black is so conspicuous as to appear intentional.

¹ Cf. *Jahrb.* XIV. (1899), p. 84, fig. 42.

5. From rim of small bowl. Yellow clay, with black decoration, and black glaze on interior. Technically this fragment was one of the finest of this style found at the Heraeum.

6. Base of a pithos-shaped vase of light red clay. The shape is unusual. One exactly similar has recently been found in Attica.

The fragments and vases which now follow, which belong to the regular Geometric types already discussed, present certain peculiarities which demand a separate consideration of them.

7. From the support of a large vessel. Dark red clay, with red brown decoration. Horse and double axe.

This fragment seems rather more Boeotian in treatment, though the clay lacks the white stones characteristic of Boeotian ware.¹ The horse varies from the usual type, as the mane is composed of wavy streaks which are drawn down to meet the neck and occasionally do not touch the neck at all. As several other fragments exactly similar in technique were found, it is clear that 7 formed the support of some vessel, probably divided into legs, as on several of the fragments the edge of the leg was sharply defined. Two other fragments which may belong to the same support were legs, with two broad diagonal lines drawn from each corner crossing each other in the centre.

8 a and b. Two fragments of a cover; diameter, 0.376 m.; height, 0.038 m. Dark gray clay, with black decoration. In the centre a large wheel with a deer; in the vacant spaces, the whole bounded by lines, lozenge chain and zigzags. On the side an adaptation of the "Running Dog" pattern, the ends connected together, and triangles as ornaments in field. As no decoration or glaze exists on the interior, it seems certain that it was a cover. Covers as large as this in the Geometric style are unknown to me.

9. Tray. Length, 0.18 m.; width, 0.11 m. Brownish clay, with the inside entirely covered with a reddish brown glaze. The decoration is placed on the outside, and consists of zigzags on the sides and water bird friezes on the bottom, separated by zigzag and lozenge chains. Missing portions restored in plaster.

10. From similar plate; handle.

11. From similar plate; corner.

9-11 are the most important examples of about twenty fragments which belonged to trays or plates of precisely the same form and design. They are slightly narrower at one end (the restoration of 9 is not quite exact) and are provided with a handle at each end. Several fragments showed a meander pattern at the base.

Their principal interest lies in the fact that very similar trays have been found at Aegina and nowhere else.² At Aegina, however, all the trays found were rectangular, and did not show a different diameter at either end. As the microscopical analysis of these trays (cf. p. 65, note) made by Dr. Washington shows the presence of augite, which was found in the trays from Aegina, and is a characteristic feature of the island, it would seem fairly certain that these particular trays were imported from Aegina. If this be true, in these trays we have the only authentic instance of an importation from Aegina into Argos, since, according to Dr. Washington, all the Geometric fragments from Aegina which were examined by him are identical with those from the Heraeum, and show none of the distinctive features of the island. Moreover, they would seem to be the only instance of a local fabric in Aegina, which until now has not been demonstrated. (Cf. Loescheke, *Athen. Mitt.* XXII. [1897], pp. 259-264.) They furnish, at any rate, a conclusive proof as to the relation between the two states, which we have already assumed to exist (cf. p. 64). I do not, however, agree with Stais in assigning them to the end of the seventh or the beginning of the sixth century; from a comparison with the other fragments of the Argive and Geometric styles found at the Heraeum, they seem to my mind at least a century earlier.

¹ *Jahrb.* III. (1888), p. 327.

² *Εφην.* 'Αρχ. 1895, p. 262 ff., pl. xii.

12 a and b. Two fragments of a pinax. Greenish yellow clay, with brown decoration faded.

a. Length, 0.10 m.; width, 0.085 m.

b. Length, 0.62 m.; width, 0.10 m.

The design, as far as it can be restored, consists of two female figures bounded by four elliptical bands, and the usual Geometric ornaments in field; outside of the ellipse a row of water birds. The dimensions of the pinax cannot be estimated.

13. Similar clay and technique. Undoubtedly belonged to a pinax whose ends were slightly curved. Water birds in panels. Edges are toothed like a saw.

(As **12** and **13** were taken from a photographic plate with a slightly different scale, they are slightly smaller than they appear. The difference between this scale and that of the other fragments on PLATE LVIII. is 6 to 5.)

There still remain to be considered a few vases which are either intact or else in such condition as to make their form certain.

Fig. 42. Amphora. Height, 0.495 m.; diameter of opening, 0.235 m. Part of neck, one handle, and various parts of the body supplied in plaster.

On edge of rim, zigzag band; on neck, vertical and horizontal series of zigzags bounding a panel of interlacing lozenges with a black centre. Below, narrow band of vertical zigzags and double crosses. Handles in fine plastic bands. Below each handle a lozenge.

A. Horse and rider to right. The rider (bearded, with three strokes to denote his hair) clad in a short chiton, which seems to be tucked up around his waist, holds in his left hand the leading rein and in his right hand a whip; chiton ornamented with vertical lines.

The horse is more carefully drawn than usual, with the eye clearly defined. No signs of a mane can be detected. On either side of the horse, a fish with a single vertical meander along the body.

B. Exactly the same, save that the horse has no rider.

On base, single meander pattern.

This amphora was the only large Geometric vase the Heraeum yielded which could be restored almost entire. That it is one of the latest examples of the style seems probable, since the body is not entirely covered with decoration and the horse is represented as a beast of burden, not as in the earlier types attached to a chariot or in the usual "Heraldic" scheme.

A jug was also found intact, 10 cm. in height, of precisely the same shape as *Jahrb.* II. (1887), p. 50, fig. 9, with similar decoration to *Ann. dell' Inst.* 1872, tav. d'agg. K. No. 3.

Several small skyphoi with vertical and horizontal handles, their sides ornamented with meanders and zigzags, were found.

Fig. 43. Height, 0.18 m.; diameter at base, 0.28 m.; at top, 0.21 m. Red clay, with red



FIG. 42.

decoration. Lozenge band at top, usual Geometric motives on body and water bird frieze on base. Several other fragments found, one of which showed that the sides were arranged in panels con-



FIG. 43.

taining two horses and man in the "Heraldic" scheme. Handle in centre, mouldings with dots half way between handles and edges.

To assign this vase to its proper place is not easy. It is almost identical in shape with *Ann. dell' Inst.* 1881, tav. d' agg. R. 1 and 2, except for the lack of handles. These are said to have been found on a similar vase from Chiusi (v. *Bull. dell' Inst.* 1884, p. 178, 179). But no trace whatsoever of a partition dividing the vase inside into two cups can be found, so that it is impossible that it should have been used in the same fashion as the Italian vases. (For discussion of their use, see Helbig, *Das Homerische Epos*², p. 361.) Nor is there any reason to suppose that would be needed on any support handles of a vase.

Fragments representing such supports (cf. PLATE LVIII. 7) were found.

About two hundred or more fragments belonging to one vase were found. This was evidently an amphora similar in shape to the large Dipylon vases in Athens,¹ of a light reddish clay, burnt in places, and must have measured nearly one and a half meter in height. No reconstruction of the vase was possible, and the foot could not be found. The vase was entirely covered with ornamentation, that on the body consisting of a series of large wheels,² arranged vertically and horizontally, separated by panels containing the usual "Heraldic" motives. Panels again were arranged on the shoulder, and the neck covered for the most part with zigzag and meander patterns. All fragments showed the usual Geometric types.

In conclusion it remains to enumerate briefly some of the forms of vases not mentioned before, which from the evidence of various fragments must have existed at the Heraeum. The forms are taken from Wide's articles in the *Jahrbuch* for 1899 and 1900.

Jahrb. 1899, p. 29, fig. 1. This form was represented by numerous fragments of feet, handles, and rims.

Ibid. p. 34, fig. 11. Several similar handles were found.

Ibid. p. 38, fig. 20. Represented by handles.

Ibid. p. 80, fig. 34. Many fragments, especially of feet, belonged to a similar vase.

Ibid. p. 82, fig. 37. A similar arrangement of double handles was shown by at least a dozen fragments.

Ibid. p. 205, figs. 71, 72, and the following pages. Large numbers of fragments belonging to similar jugs, and handles with a cross-piece were found. At the same time it is impossible to state whether all the combinations illustrated in Wide's article were found.

Ibid. pp. 214 and 215. A large number of fragments belonging to similar shallow skyphoi were found, mostly of the type of fig. 100. Some seemed to have a high foot, as fig. 102.

Jahrb. 1900, p. 53, fig. 113. Most of the fragments representing skyphoi were of this type or that of fig. 121 on page 55.

Ibid. p. 54, fig. 116 and 117. Numerous fragments of handles were found which probably belonged to similar skyphoi.

¹ Cf. *Jahrb.* XIV. (1899), p. 201, fig. 69.

² Cf. *ibid.* p. 199, figs. 65 and 66, p. 200, figs. 67 and 68.

CHAPTER IV.

THE ARGIVE STYLE.

THE Argive (so-called Proto-Corinthian) style is not only the most characteristic vase fabric at the Heraeum, but the one best represented by entire vases as well as fragments, and seems to have been the most popular style in the Argolid from this end of the Mycenaean epoch down to the beginning of the Corinthian style, a period of perhaps from three to four centuries.

The term "Proto-Corinthian,"¹ as is well known, was invented by Furtwängler and applied by him to certain vases, of which the small lekythoi with human and animal figures as the chief scheme of decoration are the best examples. Furtwängler never intended this name as an exact designation, but used it to show that this class bore a close relation to the Corinthian style which it preceded.

Since the invention of this term twenty years have elapsed, and in that time the number of these vases has increased. Originally not more than half a dozen examples from Thebes, Tanagra, or Corinth were known, but we now have numerous examples from Attica, Aegina, Eleusis, Tiryns, Argos, Syracuse, Megara Hyblaea, Southern and Northern Italy. To the class identified by Furtwängler has been added a series of vases the decoration of which consists entirely of fine parallel lines encircling the body of the vase and Geometric motives. At the same time the term "Proto-Corinthian," though universally adopted, has never been considered thoroughly satisfactory, and numerous attempts have been made to discover the real provenience of the style; none of the sites proposed as the original home of the style (Chalcis,² Corinth, Sicily, etc.) has yet been universally accepted. It has been generally believed that the style was the outcome of the Geometric ware³ and originated about the middle of the eighth century.

It appears to me that the Argolid is the original home of this style, and I venture to adopt a new system of classification and chronology, which differs materially from that heretofore offered.⁴ The conclusions about to be stated have been forced upon me after a careful study of the Heraeum fragments, and while I am far from claiming them to be the only possible ones, they form the basis for the whole of this chapter. Briefly, the so-called Proto-Corinthian style is Argive in its origin, and a direct offshoot of the Mycenaean style, being contemporaneous with the Geometric.

From the very beginning of the excavations, when it was seen how large a proportion of the vase fragments was formed by this ware, in 1892 Professor Waldstein asserted that it was really Argive. Since then Professors Furtwängler⁵ and Loescheke⁶ have also come to the same conclusion. The arguments in favor of its Argive origin are:—

(a) The quality of this ware found at the Heraeum.

(b) The steady development from the earlier periods, especially the Mycenaean.

(a) The style is found in greatest quantities outside of the Argolid, in the Necropole del Fusco at Syracuse,⁷ and at Megara Hyblaea,⁸ and Orchomenos.⁹ The amount fur-

¹ *Bronzefunde von Olympia*, pp. 47, 51.

² The Chalcidian origin was proposed by Helbig (*Die Italiker in der Po-Ebene*, p. 84). Stuart Jones follows the same view (*J. H. S.* XVI. [1896], p. 333).

³ *B. C. H.* XIX. (1895), p. 182.

⁴ A brief outline of the following has already been

given by me in the *American Journal of Archaeology*, 1900, p. 441 ff.

⁵ *Berl. Philol. Wochens.* 1895, p. 202.

⁶ *Athen. Mitt.* XXII. (1897), p. 262.

⁷ Cf. *Not. d. Scavi*, 1893 and 1895.

⁸ *Mon. Ant.* vol. I.

⁹ *B. C. H.* XIX. (1895), pp. 182-188.

nished by the three most important excavations in the Argolid, the Heraeum, Mycenae, and Tiryns, more than equals that of the rest of the Greek world, including the Sicilian excavations. With such a vast amount found in the Argolid alone, it is extremely improbable that any other state should have been the inventor, or that the importation of the style should have taken place into a state which during the Mycenaean period had a flourishing vase industry of its own. Furthermore, as we have already pointed out, so few types were found at the Heraeum which were clearly made outside of the Argolid, that we must hesitate before calling any doubtful style a foreign importation. And as the largest part of the ware found in the Argolid is furnished by the Heraeum, it is there rather than at Mycenae that the origin of the style must be sought. In Aegina the style shows the same development as at the Heraeum, but as no attempt has ever been made to show that Aegina had a vase industry of her own,¹ and as we know that historical evidence points to a close connection between Argos and Aegina during the eighth and seventh centuries, the vases of this style found at Aegina may well have been imported from Argos.

(b) As far back as 1887, Dümmmler² had pointed out the fact that fragments of this style had been found at Aegina in the lowest levels along with Mycenaean fragments, and the same is true at the Heraeum, though, as we have seen, the presence of definite chronological levels was not observed. This would show clearly that some vases of the style are as old as the Mycenaean period. Many fragments of this ware are found at Aegina as well as at the Heraeum, which bear the strongest resemblance to the Mycenaean style. Moreover, the steady development of the style from its beginning can be better traced in the Argolid than in any other site, where the earliest examples are not to be found. Therefore, as Aegina cannot really claim the origin of the style,³ the enormous quantity of it found at the Heraeum, as well as the steady and complete development, would make it reasonably probable that the style originated in the Argolid.

As stated in the Introduction, the all-pervading characteristic of the Argive style is, as Professor Waldstein maintains, "Linear," pure and simple. We have already seen that the Primitive and Mycenaean styles were Linear in their origin, and that the latter, after passing through the pictorial stage when naturalism prevailed, returned in Class IV. to the Linear principle again, which, as we know from the presence of the broad and fine bands on the bodies of Mycenaean vases, was never entirely lost.

Practically, therefore, the earliest specimens of the Argive style are small vases, akin in clay and technique to the Mycenaean style. The question here arises, whether such vases form a step beyond the Mycenaean style, or whether they are only the best illustrations of a continuous principle which originated in primitive times, and arrived at its perfection at the end of the Mycenaean period. Professor Waldstein maintains⁴ "that the Proto-Corinthian development of the Argive-Linear is but the natural development out of the linear decoration as found in Argive vases at the Heraeum from the earliest Primitive vases through the dull-colored vases and the Mycenaean periods. In the two first periods (Primitive and Dull-colored) this linear decoration is in free-hand drawing, sometimes with rudest implements and in awkward and grotesque uncertainty of touch. This uncertainty corresponds to the ruder hand-made technique of the ceramist. The

¹ The plates mentioned on p. 116 and a few fragments of Mycenaean vases are the only vases known which were *surely* manufactured in the island; v. Introduction, p. 65, note.

² *Jahrb.* II. (1887), p. 19.

³ Cf. p. 65, note.

⁴ The words in quotation marks are Professor Waldstein's.

greater accuracy and skill in this linear decoration naturally comes in when the ceramist himself makes skillful use of the wheel, and produces such fine specimens of the potter's craft as are to be found with the rise of the Mycenaean lustrous vases. The parallel lines ornamenting the lower portions of these are thus firm and accurate. At the same time the feeling for 'free-hand' drawing has not died out, and in its turn advances with the progress of ceramic art during the Mycenaean period, so that when the feeling and desire for naturalism grows, the decoration above the lines reaches a stage of perfection comparatively as high in technique in these lustrous vases as is the linear decoration and the ceramic art in the shape and manufacture of the vase itself. In the larger vases of the Mycenaean period the linear decoration is thus never entirely superseded; while in the smaller vases it still maintains its predominance through this and all early periods. At the Heraeum, and we may say in the Argolid, the Linear principle of decoration, which finds its highest and purest expression in the later Argive (Proto-Corinthian) vases, had therefore never died out."

This theory of Professor Waldstein's I accept in part, and I agree with him that the Linear principle was never quite discarded even in the best period of the Mycenaean style. If it could be proved, as Professor Waldstein thinks, that from the Primitive times to the close of the Mycenaean civilization a distinct class of vases exists, which, though showing elements of Mycenaean decoration, have as their chief characteristic this same Linear principle, I should see no objection to accepting his theory entirely. This class I have not succeeded in finding, and I do not regard the various examples already quoted by Professor Waldstein as establishing the existence of such a class beyond question. It is true that there exists a large class of vases at the Heraeum, the date of which is not absolutely fixed, which show only the Linear principle; but whatever their date may be, I do not consider them as earlier than the end of the Mycenaean period, nor do the few scattered fragments with incised linear ornamentation, which may possibly belong to the acme of that period (though that point is extremely doubtful), constitute to my mind a distinct and unmistakable link between the Primitive times and the rise of the Argive style. It is possible to regard these same small vases as the beginnings of the Argive style, but only as the poorest examples of it. They show at least that they are the result of a principle which filtered through the Mycenaean civilization, just as a river flows through a lake, but which I, for my part, do not regard as a separate entity from Primitive times. Hence the earliest class of the Argive ware is probably an offshoot of the Mycenaean style. This class I shall call "Early Argive."

We have seen that some great movement (perhaps the Dorian invasion) in Greece caused a revival of the various Geometric or primitive motives at a time when the Mycenaean civilization was dead or dying, but when the Argive style had begun. Under the new influence the Argive style is quick to respond. Accordingly we find that as the Geometric style flourishes, the Argive style borrows freely the Geometric motives, but keeps them subordinate to its characteristic Linear principle of parallel bands as the main decoration. This is the class "Linear Argive," which forms the bulk of the style at the Heraeum and is widely represented in Sicily and Italy. The ordinary Geometric motives, zigzags, meanders, squares, lozenges, etc., are the ones most commonly used, and as the vases are generally of a small size, these motives are confined to the rims or shoulders, seldom if ever used on the body of the vase.

That the spread of Oriental influence in Greece caused the decline of the Geometric style is universally admitted. In the Argolid we find the Geometric style ceasing almost

abruptly, while the Argive style becomes, as it were, emancipated. The reason is simply that as this style was confined to smaller vases on which the Geometric motives played a subordinate part, the introduction of orientalized animals and human figures, together with the fuller development of ornaments in the field, did not necessarily interfere with its Linear principle of encircling bands. Again, as it was the distinctive style of the Argolid, and more popular than the Geometric, it was more easily influenced by the new ideas from the east. On the other hand, it would seem as if no attempt was made by the Argive potters to adapt the Geometric style to the new conditions, and hence it died out. In Attica, however, as the Geometric style affords the chief and only ware, some attempt had to be made to remodel the style to suit the new influence, or else to evolve a completely different fabric; accordingly we find the Dipylon style developing into the Early Attic. It would seem probable that the Phaleron jugs which illustrate this development were influenced in some way by the Argive style; such a theory, however, lacks actual confirmation.

We therefore find a third class of the Argive ware (Oriental Argive). It is to this class that the lekythoi in Berlin, London, and the other museums belong, which caused the invention of the term, "Proto-Corinthian." The period of its production probably lies in the early part of the seventh century, and it cannot have lasted beyond the end of that century, since the rise of the Corinthian and Early Attic styles probably supplanted it; also, no fragments of the style have been found at Naucratis. Cf. Cecil Smith, *J. H. S.* 1890, p. 176.

A difficult question is presented by the relation of Class III. to the Corinthian style. That the latter is directly developed from Class III. I see no reason to doubt. Couve¹ has recently denied such a connection absolutely, but as his arguments do not take the Heraeum fragments into consideration, they carry less weight.

Previous to the excavations at the Heraeum and at Aegina, Class III. was mainly represented by the small lekythoi already mentioned, but with the material from Aegina and the Heraeum the class is seen to include numerous larger vases of various shapes, the lekythoi being in the minority, so that any argument which bases the relation of the Argive style to the Corinthian on the lekythoi alone possesses little value. It is true that the lekythoi belonging to Class III., which show the most advanced technique, are not found in the Argolid, but in Thebes and Corinth. The shape, however, is fairly well represented at the Heraeum.

Now all these lekythoi found outside of the Argolid seem to be a finished product; they are similar to the Corinthian vases, but vases which show the transitional stages between Class III. and the Corinthian are wanting. Such connecting links, as far as I know, are found only at Argos and Aegina, but the quantity of true Corinthian ware found at both those sites is small compared to that found at Corinth or in other parts of Greece. As Corinth is universally admitted to be the originator of the Corinthian style, that point may be regarded as settled.

A survey of comparative history will help us here. We have seen that during the Mycenaean epoch the Argolid was the great source for the bulk of Mycenaean pottery found in Greece, just as Athens became the great producer of the Black and Red-Figure styles in after years. At the time we are considering (the seventh century), Argos had behind her centuries of skill in ceramic arts, with (presumably) a correspondingly large commerce. Athens did not begin her commercial activity until the eighth century,

¹ *Rev. Arch.* 1898, p. 213.

and Corinth, although beginning at this time to figure as a commercial factor, had not the previous years of industrial activity. If, then, the question arises as to which soil the spread of Oriental influence in Greece found most receptive, antecedent probabilities would certainly point to Argos. It would be most extraordinary to find such a finished product as Class III. originating in Corinth; as a matter of fact, the real difference between Class III. and the Corinthian style is simply this — a new influence at work upon skilled, as opposed to unskilled labor.

Argos, then, originates Class III. Its wide range does not militate against such an assumption; while not all the vases of this class so common outside of Argos are probably of Argive manufacture, still the bulk of them were most probably exported from Argos. That they do not exist in very large quantities at Argos itself is no proof to the contrary; it may perfectly well have been the case that local taste preferred the larger, finer vases, while the bulk of the smaller was exported. We know that during the sixth and fifth centuries the bulk of Attic work was exported to Italy, and were it not for the cemeteries of Chiusi, Ruvo, Nola, etc., etc., our knowledge of Attic pottery would be small indeed. At the same time it would have been perfectly possible for potters in Corinth, Thebes, Syracuse, and elsewhere to make copies of originals imported from Argos.

Hence it is probable that the importation into Corinth of Argive vases gave the inspiration to the Corinthian style. The ware evolved by Corinth was really a poor imitation of the Argive, and, owing to a lack of technical experience, the former started on a much lower plane than the latter. It is worthy of remark that as Class III. develops at Argos it becomes more like the Corinthian, only much finer in technique. This is not surprising, seeing that the external influence in both places was the same. The actual points of similarity between fragments of Class III. and the Corinthian style will be discussed later.

The question of clay is important, but difficult to define in default of microscopic investigation. In Class I. the clay is almost Mycenaean; practically the only difference is that the clay of Argive vases is lighter. The general treatment of glaze and decoration varies somewhat from the Mycenaean, in that the surface is seldom polished, and the paint less lustrous and applied less thickly. This is especially apparent in Class II. Here, however, the general scheme of decoration has advanced beyond all similarity with the Mycenaean. But though in the earlier classes the clay seems to be similar to that of the Mycenaean vases, the greatest difference exists between it and that of the Geometric vases, the Argive being of a different color (generally reddish), finer, cleaner, and lighter. In fact, during the later period of the Argive style, the art of making light vessels reaches its highest point; in some cases the clay is almost as thin as a sheet of very fine cardboard.

Owing to the smaller size of the vases the material is in much better preservation, and in almost every case the exact form of the vase could be determined. Hence it has been possible to evolve a classification based on the various forms. All through the style three shapes are most prominent — *lekythos* (*oinochoe*), *skyphos*, and *pyxis*; each exhibits many variations, which will be discussed later.

The use of some color, red, white, yellow, etc., applied to the vase after the first firing, is especially characteristic of the Argive style. As it is found in the Mycenaean and Geometric styles as well, its use will be discussed more thoroughly at the end of this chapter.

CLASS I.

EARLY ARGIVE.

We may include in this class many of the small jugs mentioned on pp. 99–101. Their only decoration is encircling bands with the occasional introduction of a Mycenaean motive, and as they belong to the end of the Mycenaean period they represent virtually the first stages of the Argive style. The forms used in this class are not very numerous; besides the jugs already mentioned we have examples of lekythoi, kalathoi, and small saucers, all three akin to various Mycenaean forms. That so few shapes are to be found is not surprising; the new style being still an experiment, potters would be likely to begin with familiar shapes.

Lekythoi.

Only one form of the lekythos was noticed; it is a one-handled jug of about the same form as *Myk. Vas.* XLIV. 63. It is, however, all through the Argive style one of the most popular shapes, and one which was clearly taken from a Mycenaean prototype.



FIG. 44.

Fig. 44. Height, 0.07 m. Southeast of Second Temple. Intact.

This lekythos is the most perfect specimen of Class I. found at the Heraeum. The clay is of a yellow tinge, and the decoration a lustrous black. In point of technique it possesses the greatest affinity with Mycenaean vases. The quality of the clay is of a slightly lighter and thinner texture, and the scheme of decoration distinctly linear. At any rate, its connection with the Mycenaean style is so strong as to show that it is certainly contemporaneous with the later period of that style.

Half a dozen similar vases were found in good condition, and as many more in fragments. The scheme of decoration was the same in all, some, however, having a series of fine lines between the broad bands. Several other vases, in shape more like the jugs on p. 100, were found, on which the linear decoration was apparent, but of extremely careless execution.

Kalathoi.

These small vessels form a distinct series in the Argive style. Those which show the most advanced technique undoubtedly fall into Class II. To avoid confusion, they have been placed together. They seem to have been a common shape, since about fifty were found, most of them intact.

The earliest examples are hand-made, very small (not more than 35 mm. in height or 55 mm. in diameter), with one or two broad bands very carelessly applied. Next, a series of wheel-made specimens, some without any decoration, more commonly with several broad stripes. Finally a number of kalathoi, carefully made with a decoration of stripes in series of two or three. These last probably belong to Class II. In some cases the rim is formed of a series of plastic mouldings with dots on them, but without any other decoration on the vase except a glaze on the interior.



FIG. 45.

Fig. 45. Height, 0.04 m.; diameter, 0.07 m. Reddish yellow clay, with dark brown bands on interior as well as exterior. Cf. *Ann. dell' Inst.* 1877, tav. d'agg. A. B. 14.¹

This kalathos belongs to the second series. Judging from its similarity to the bowl found in the Bee-Hive tomb (p. 95, **Fig. 30**) and the style of decoration, we cannot date it as any later than the end of the Mycenaean period.

¹ A kalathos of similar shape but with purely Geometric decoration has been found at Eleusis; cf. *Εφημ. Ἀρχ.* 1898, pl. ii. 17.

The hand-made vases were exactly similar save for a rougher style of execution. Slight but unimportant variations in the curve of the sides were found.

Fig. 46. Height, 0.068 m.; diameter, 0.10 m. Reddish yellow clay, burnt red at base, with red bands and dots on rim. Two bands inside. Found above the burnt layer on the west end of Old Temple Terrace.



FIG. 46.



FIG. 47.



FIG. 48.

Fig. 47. Height, 0.053 m.; diameter, 0.093 m. Red clay, burnt bright red at base, with dark brown bands above, red below. Dark red glaze inside. This change from brown to red in the decoration is evidently intentional.

Fig. 48. Height, 0.045 m.; diameter, 0.078 m. Red, clay with yellow slip burnt red at base. Upper bands black, lower red, evidently intentional. Dots on rim, and five bands inside. A dozen other vases of this type were found.

The last three belong to the later series of the kalathoi, though the interval between them and the earlier ones is not great. The technique is far superior and the clay finer. They illustrate the three varieties of the form. Fig. 48 has a certain resemblance to the bowls already mentioned.

Saucers.

Just at this point we place a series of small saucers, of which quite a number were found. They vary from 3 to 5 cm. in diameter and 10 to 15 mm. in height, and would seem to be developed from the Mycenaean saucers (p. 96) with the addition of Argive decoration of concentric bands. Extra color (generally red) is added to some of the bands.

Two types may be detected.

a. Flat base, straight or sloping sides, with a sharply defined rim, flange curving outwards. A small boss is occasionally found on the interior, and small projections are often added to the rim as if for handles.

b. The base is either flat or curved, with curved sides, no flange to the rim.

a.

Fig. 49. Height, 0.01 m.; diameter 0.051 m. Light red clay, with black bands alternating with applied red bands on interior. No decoration on exterior.



FIG. 49.



FIG. 50.

b.

Fig. 50. Height, 0.014 m.; diameter, 0.028 m. Reddish yellow clay, with black decoration burnt red in parts. Bands inside with dots on rim. On exterior, below rim, broad band of applied red. Boss in centre.

Numerous other similar saucers were found and fragments of others of larger size. One, of which about half was preserved, measured 12 cm. in diameter and 5 in height. Clay and decoration were identical.

Fragments of a few others were found, of a very fine thin clay, with a brilliant glaze and arrangement of lines exactly similar to the lekythoi below. These clearly belonged to Class II.

CLASS II.

LINEAR ARGIVE.

We now come to the class which includes almost all the Argive style, from its beginning in the Mycenaean times down to the rise of the Oriental influence, a period of perhaps nearly two centuries. Three periods may be noted, though as the transitional stages between them are so gradual, they will not be used as a basis for classification.

1. The survival of certain Mycenaean motives, still retained from the older style.
2. Pure linear treatment.
3. The introduction of the animal figure and the development of the Oriental influence. We also find three distinct technical methods. *a.* The ordinary technique, similar to that already discussed. *b.* The application of extra color. *c.* The contrast obtained by the action of fire, when half the vase is burnt bright red and half left in its natural decoration in black or brown.

The principal shapes are : —

Lekythos,
Oinochoe,
Skyphos,
Pyxis,
Aryballos,
Alabastron,
Plate.

Several other shapes will be met with, but such are comparatively rare and will be discussed as they appear.

Lekythoi.

Two varieties of the lekythos may be found, one rather globular in shape (cf. *Not. d. Scavi*, 1895, p. 138, fig. 15) and the other (*Berl. Cat.* pl. v. 102) slightly more developed. The latter shape is a modification of the former, and becomes very common during the later period of the Argive style.

Types.

Fig. 51. Height, 0.065 m. Bands on neck, handle, and body, with pot-hooks on shoulder, and below a broken wave pattern.



FIG. 51.

This seems to be slightly more advanced in form than the preceding, and

The shape of this lekythos is somewhat similar to the Mycenaean form (v. *Myk. Vas.* XLIV. 63).

In the wave pattern we still see a survival of Mycenaean motives. A similar lekythos is at Syracuse (v. *Not. d. Scavi*, 1893, p. 473). From the form and ornamentation this lekythos may be considered as one of the earliest of Class II. Fragments of several other similar lekythoi were found.

Fig. 52. Height, 0.085 m. Part of rim broken away. Bands on neck, handle, and body, Geometric snake on shoulder. Decoration in dark and light brown. Cf. *Not. d. Scavi*, 1895, p. 138, fig. 15; *Brit. Mus.* A. 1061.



FIG. 52.

is a common type at the Heraeum. Half a dozen more examples were found, more or less intact, and fragments representing perhaps a hundred.

Fig. 53. Height, 0.075 m. On shoulder, two birds with a scroll between them. Incised lines.

Identically the same form as the preceding. As in the Geometric style, the birds are the first living subjects introduced on a vase. The heraldic scheme of the birds suggests the fourth class of the Mycenaean style. Cf. *Myk. Vas.* xxxvi. 364. This seems to be one of the earliest instances of the incised line.

The chief variation in these lekythoi lies in the ornamentation on the shoulder. The following types were noted in the fragments:—

Rays. These include several varieties. They are either single, radiating from the centre, or else double, one set radiating directly from the neck, alternating with a second set which radiate from a band drawn just around the neck; rays drawn in outline; rays composed of interlacing lines. All have their points outwards.

In some cases a second band of zigzags is added on the body just below the rays.

Checkerboard. This is generally used as a band on the body. The plain squares are occasionally dotted.

Lozenges. As an ornament in field on the shoulder, combined with a ray or pot-hook.

Fig. 54. Height, 0.06 m. Neck and handle restored; on shoulder ray pattern.



FIG. 54.

FIG. 55.

This is an example of the simplest form of this second type, of which about twenty-five more were found. The majority had a ray pattern around the base, and the place of one of the broad bands taken by a checkerboard band. Pot-hooks were occasionally found on the shoulder instead of rays.

Fig. 55. Height, 0.062 m. Yellowish clay, burnt red on one side. Circle of dots on rim. Sign like the letter H on handle, vertical zigzags on rim. On body, frieze of three animals. Below, rays. Above and below animal frieze, two lines of dark red paint applied. The vase is intact.

This lekythos represents the most advanced stage of the second type, and can equally well be considered as the first stage of Class III., or the last of Class II. In fact, it forms a link between the two, since the animal figure is now introduced, through the Oriental influence. A dozen more of this type were found intact, and at least a basketful of fragments belonging to similar vases.

The application of the extra dark red lines now becomes quite a feature in the style, and few vases belonging to Class III. are without it. Several lekythoi of this shape, without any animal decoration, showed this same feature. One was adorned with two broad bands of brown, on which six alternating thin stripes of purple and yellow had been applied. A similar instance is at Syracuse (Case VII. No. 2893).

Also several lekythoi were found with checkerboards on the body (with applied bands of dark red between), and a leaf rosette on the neck, similar to those in the Louvre, v. Pottier, *Vases de Louvre*, pl. xxxix. E, 309; cf. also *Mon. Ant.* I. p. 824 (from Megara Hyblaea). Several examples are in Rome (Museo Papa-Giulio) and Florence. The type seems to be very common.



FIG. 53.

Oinochoai.

Three distinct types of oinochoai are to be noted.

1. Short neck, body slightly curved.
2. Long neck, cone-shaped body.
3. Short neck, square shoulder.

Each type is subject to occasional variations.

Type 1.

Fig. 56. Height, 0.124 m.; diameter at base, 0.115 m. Missing portions restored in plaster. Reddish clay, with dark brown decoration. Three bands of vertical zigzags on shoulder.



FIG. 56.

This was the only example of the type which was preserved entire. As few other fragments of similar vases were found, the form does not appear very common at the Heraeum.

1 a and b (PLATE LIX.). Two fragments from a large oinochoe, whose height cannot be determined. Reddish clay, with dark brown decoration. On the neck, an elaborate flower pattern between vertical "Running Dogs." On shoulder, alternating rays of interlaced lines whose tops end in two hooks with a border of fine vertical lines; below, dotted lozenge chain. Several other fragments from the same vase were found.

The pattern on the neck is similar to that on an oinochoe in Athens (*Jahrb.* II. (1887), p. 52, fig. 14) as well as the Analytos jug (*Jahrb.* II. (1887), pl. iii.), and seems to be drawn from

a Mycenaean prototype. I am unable to find any similar treatment of the ray pattern on the shoulder.

The form of this vase is a slight modification of **Fig. 56**, as the diameter of the body is not so large in proportion to the neck. Only one other vase of exactly this form was found with a decoration on the body of rays, bands, and checkerboard. The form, however, is quite common at Syraense. Cf. *Not. d. Scav.* 1893, p. 468; 1895, p. 153, fig. 38. In the Corinthian period it becomes a favorite shape.

The few fragments of oinochoai of this form (**Fig. 56** and PLATE LIX. 1) did not show any great variety in their scheme of ornamentation. Zigzags, checkerboards, and rays (especially on the base) were the usual motives.

Type 2.

This type seems to be the most favorite form of oinochoe at the Heraeum, judging by the number of the vases. Thirty or so were preserved more or less complete, varying between 10 and 15 cm. in height. An equal number had the necks and handles broken away, but the bodies intact, while the number of fragments belonging to vases of this form filled several baskets. Something like a hundred necks were found, but in only a few instances did they fit any of the bodies. The total number of vases represented must have numbered several hundred.

Fig. 57. Height, 0.165 m.; diameter, 0.135 m. Handle restored. On neck, two bands, the upper containing a zigzag figure like an N, and the lower a lozenge chain. Both bands are broken by a figure resembling two triangles with contiguous points. On shoulder, Geometric snake with swastikas, dots, and zigzags as ornaments in field.

This vase is still somewhat allied to the preceding type, save for the lengthening of the neck, and seems identical in form with an oinochoe from Eleusis (*Εφημ. Ἀρχ.* 1898, p. 106, fig. 26).

Fig. 58. Height, 0.17 m.; diameter, 0.12 m. Rim and handle restored. On neck, four bands of lozenge chains, separated by a broad band of horizontal zigzags. On shoulder, rays (interlaced lines), with *swastikas* as ornaments in field. Below, checkered band; on base, rays. Decoration in bright red and black.

This is the best specimen of the type that was found. The form is seen here in its complete development, the body cone-shaped, and the neck very long (about once and a half times the height of the body).

The technique of all these vases and fragments is very similar, the clay reddish or greenish in tone, with a yellow slip, and the decoration (often very lustrous) in black or brown, changing to red, in many cases intentionally so. As no two vases have exactly the same ornamentation, it will be well to consider that more in detail.

As in almost every case, the main body of the vase is ornamented with fine parallel bands; the variation occurs in the following places: neck, handle, shoulder, base, and bottom of the vase.

Neck and rim. The rim as a rule is never ornamented, but is entirely covered on the outside with a dark glaze. A few fragments were found which showed that the ornamentation (lozenge chain) had been carried on to the rim itself. The neck, however, offers the greatest variety of ornamentation. From over a hundred necks, forty-five distinct systems of designs were counted, which fall into several classes. The design never completely encircles the vase, but leaves a vacant space from rim to shoulder, just back of the handle.

In a few cases the neck is covered with parallel horizontal lines the whole length. This, however, is not common, and was observed on only a few fragments. The usual type is a series of broad friezes containing the various motives, separated by the parallel line system. These figures are either arranged in series of equal width, or else broad and narrow friezes together. The ornaments in them are always zigzags (vertical or horizontal), lozenge chains, meanders, rays, or water birds. A few examples showed a water bird in a panel.

The following represent the most striking examples (PLATE LIX.): —

2. Length, 0.107 m. Reddish yellow clay, with yellow slip. Brilliant red decoration. Meander frieze bounded above and below by friezes of lozenge chain (interlaced lines). Below, part of a frieze of N ornament similar to fig. 57.

3. Length, 0.054 m.; width, 0.045 m. Brick red clay, with yellow slip. Brilliant decoration in light and dark red. Guilloche.

Reckoning the diameter of the neck as one fourth of the length, we obtain an oinochoe of about 25 cm. in length (the neck being about once and a half times the height of the body). Several fragments of necks of an even larger size were found, which, together with the size of some of the fragments from the bodies, shows that oinochoai of a very large size (25 to 35 cm. in height) existed at the Heraeum. Oinochoai of such a large size are rather rare; the largest existing specimen with which I am familiar was formerly at Callaly Castle,¹ in Northumberland (Forman collection), and measures 22½ cm. in height, and 21 cm. in width at the base.

¹ What has become of this vase I am not able to say. No mention of it occurs in the Catalogue of the Forman Sale.



FIG. 57.



FIG. 58.

Shoulder. Less variety was exhibited in the decoration of the shoulder. The usual motives are, rays (in silhouette, or formed by interlaced lines), radiating outwards from the neck. A few fragments showed rays pointing inwards; zigzags, vertical and horizontal, singly or in series; checkerboard. The shoulder has occasionally a double frieze, as in **Figs. 57 and 58.**

Fig. 59. Fragment of oinochoe. Height, 0.057 m. Brick red clay, with bright red decoration. On shoulder, frieze of birds (lozenges and pot-hooks as ornaments in field), and a narrow border of vertical zigzags. Usual arrangement of bands on body. Incised lines freely used.



FIG. 59.

This fragment represents the latest stage of the oinochoai belonging to Class II., and corresponds to the lekythos on p. 159, fig. 55. As in the Geometric style, birds seem to be the earliest animate motives used.

Handle. Out of over fifty handles, twenty-three distinct designs were counted. The decoration is almost invariably on the outside of the handle, the inside being left plain. One fragment showed glaze on the inside. The usual types are, —

Horizontal lines,	Meander,
Vertical lines,	Geometric snake,
Both combined,	Guilloche,
Zigzags, vertical or horizontal,	Rosettes.
Herring-bone,	

The following are the most striking examples :—

PLATE LIX.

4. Length, 0.087 m. Yellow clay, dark brown decoration, rather thin. A similar meander exists on the handle of an oinochoe at Syracuse, tomb 344. Cf. *Not. d. Scavi*, 1895, p. 152, fig. 38.

5. Length, 0.095 m. Light red clay, with yellow slip. Dark red glaze on inside. Guilloche alternately in outline and silhouette. The same peculiarity may be found on a Mycenaean fragment (*Myk. Vas.* XXXIV. 339). Another instance occurs on the rim of an amphora found at Cynosarges by the British School at Athens (*J. H. S.* XXII. [1902], pl. ii.).

6. Length, 0.069 m. Light yellow clay. Snake and rosettes in black (cf. *J. H. S.* XI. [1890], p. 175; *Jahrb.* I. [1886], p. 135), very much faded. Incised lines are here used.

7. Length, 0.135 m. Reddish clay. Decoration originally red, but burnt quite black. The arrangement of a half rosette at the base of the handle is extremely curious.

Base. The decoration on the base is usually confined to a ray pattern. Little variety is introduced, except in the height of the rays which on the larger fragments measure as much as three centimetres. A frieze is occasionally added above the rays of zigzags or some other design. One fragment showed a Mycenaean spiral chain. In some cases the line system is continued clear to the base, or a frieze of zigzags may be introduced in place of the rays.

Bottom. The decoration of the flat surface on the bottom with a design is a curious feature among Argive vases of this type, and may be also seen on an oinochoe from Aegina (*Athen. Mitt.* XXII. [1897], p. 294, fig. 19). The Aegina oinochoe follows the usual scheme, which is a series of parallel lines crossing each other at right angles. The other scheme is simply a series of parallel lines across the diameter of the base. Other fragments showed the fore feet of a horse, scroll and lozenge patterns. On the

bottom of one fragment of the base, the upper part of a human face, similar in character to the face on PLATE LVI. 7, appeared. A similar face occurs on a Ionic hydria in the Louvre (Pottier, *Vas. Ant. de Louvre*, pl. lii, E 696).

To this type of oinochoe belong a number of vases, which through their decoration seem to form a class by themselves. About a dozen were found more or less intact, and perhaps fifty more represented by fragments. These vases were not more than 10 cm. in height, and are entirely covered with a black glaze, except on the base, where a natural band of the clay is left on which is a ray pattern. Around the body of these vases run thin lines of red or yellow, applied after firing, and on the shoulder an incised tongue pattern, the divisions of which are alternately red and yellow.

The clay of all these vases is of a light yellowish tone, and the glaze varies between black and brown. The only variety lies in the arrangement of the applied red and yellow lines, which are arranged in many different ways. The three fragments on colored PLATE LXIV. 6 to 8, illustrate clearly the characteristics of this type.

8. (PLATE LIX.) Neck of oinochoe. Length, 0.115 m. Light reddish clay, entirely covered with a lustrous black glaze, on which are added three rosettes in yellow.

No other fragments of this vase were found, but it seems certain that it belonged to a large oinochoe, entirely glazed, with the usual 'tongue' pattern on the shoulder. The presence of an ornament on the neck of oinochoai of this type seems unique; I know of no similar instance.

In Greece itself vases of this type do not seem common. A few similar fragments were found at Aegina (*Athen. Mitt.* XXII. [1897], p. 126). Outside of Greece, especially in Italy, the type appears frequently (cf. *Not. d. Scav.* 1895, p. 139, fig. 18). Similar examples may be found in the British Museum and the Louvre.

As a rule the vases were small; but one exception (No. 8) occurs.

Type 3.

This type differs principally from the preceding, in that the shoulder is set more squarely to the body, the line between being furnished, in some cases, with a slight moulding. The shape is not common; one may be found at Syracuse (from Megara Hyblaea, tomb 898), and another in Naples (Heydemann, *Cat.* pl. iii. 130). Few vases of this type were found at the Heraeum; not more than five intact or partly so, and as many more in fragments. The scheme of decoration did not differ materially from what we have already discussed; two of the vases were entirely covered with a dark brown glaze on which were applied lines of dark red and white. Others again showed a shoulder pattern of rays or leaves, and on one fragment the body was ornamented with a "Running Dog" pattern.



FIG. 60.

Fig. 60. Height, 0.086 m. Rim and handle restored (rim falsely so, as it should have had a trefoil opening). Light red clay, with red decoration. Leaf pattern on shoulder and body, and applied dark red bands on neck, shoulder, and body. The oinochoe in Naples, mentioned above, has similar ornamentation.

Miscellaneous Types.

Under this head may be mentioned a few oinochoai which show some slight variations from the types already discussed. One small jug of greenish clay was found, 5 cm. in height, which though in shape similar to lekythoi of Type 1, had a trefoil lip; except

for two bands on the body, the jug bore no decoration. The body of another was also found which belonged to Type 2 of the oinochoai, but which had a moulding around the bottom, so that the base was slightly raised. On the bottom was a wheel with four spokes, having a square of interlaced lines between each spoke. Another, which belongs to the same type, is given below.



FIG. 61.

Fig. 61. Height, 0.055 m.; diameter, 0.062 m. Rim and handle missing. Reddish clay, with brown decoration. This vase is more squat and rounded than those included in Type 2, and is paralleled by a Geometric jug from Eleusis, 'Εφημ. 'Αρχ. 1898, pl. ii. 10.

Further we may mention several small jugs, with a globular shaped body, neck and handles missing. One in particular (height, 0.65 m.) had a Geometric snake on the body, and similar shoulder decoration to a jug from Eleusis (*ibid.* 1898, p. 102, pl. ii. 5).

Skyphoi.

The bulk of all the Argive fragments found at the Heraeum belonged to skyphoi, which were presumably the favorite shape. As these skyphoi are usually small and made of fine clay, they are generally broken, and few were preserved intact. The variations, however, are few, and the general scheme of decoration is the same in all.

Three distinct forms can be noted.

1. Skyphoi with vertical handles.
2. Skyphoi with horizontal handles.
3. With similar handles to Type 2, but more closely allied to the kylix form.

The interior in every case is covered with a dark glaze.

Type 1.

Fig. 62. Height, 0.069 m.; diameter, 0.08 m. Handle and part of rim restored. Dark clay,



FIG. 62.

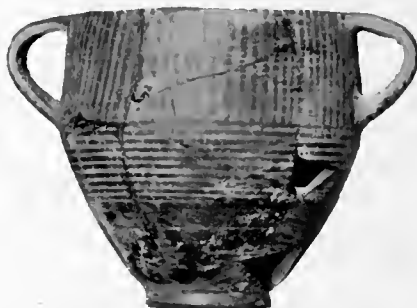


FIG. 63.

with decoration in black and brown. Arrangement of vertical and horizontal lines on rim, stripes on handle.

The majority of the fragments of 1 belong to similar vases. A similar one is in the British Museum, A 543. Cf. also Zannoni, *Scavi*, XXXVIII. 6.

Fig. 63. Height, 0.077 m.; diameter, 0.07 m. Reddish clay, vertical lines on rim inclosing three series of zigzags in a panel; stripes on handles.

Here the separation of the rim and body is more sharply defined than usual. Both **Figs. 62** and **63** are from the Old Temple Terrace.

Skyphoi of Type 1 were not very common at the Heraeum, nor, in fact, is it one of the usual shapes. It is evidently derived from a Mycenaean shape (cf. *Myk. Thong.* x. 49), as there we see the same sharp definition of rim and body. As a rule the

skyphoi of both types had a flat base, but some showed a well-defined foot (as in **Fig. 66**); the presence of the foot seems peculiar to each type.

Type 2.

Type 2 is the usual form of skyphos found not only at the Heraeum, but all over Greece, Sicily, and Italy. The form is that in Berlin *Cat.* pl. v. 98. Some thirty or so from the Heraeum (mostly very small) were preserved intact, while the number of fragments filled several baskets. They vary largely in size, some being as high as 20 to 30 cm., and some measuring less than 5 cm. in height. The only variation in the form lies in the fact that some are much taller in proportion to their diameter than others. The scheme of decoration falls into two classes.

a. Exterior ornamented with the usual linear motives.

b. Entire vase covered by a dark glaze except for a band around the rim on which the various linear motives are placed. In some cases only the lower half of the skyphos is glazed.

a.

A large number of fragments belonging to skyphoi exactly similar to those published by Pallat, *Athen. Mitt.* XXII. (1897), p. 276, fig. 8, were found. The prevailing style of decoration seemed to be rays on the base, bands around the centre, and vertical lines and zigzags on the rim. Rays are almost invariably used on the base, and in only a few cases are the bands continued down to the base. The chief variations occur on the rim; we have rays, zigzags, water birds (Pallat, *loc. cit.* p. 278, figs. 10 and 11), or a meander pattern. All these motives are generally included in a panel bounded by vertical lines. In some cases a smaller panel with a double triangle (as in Pallat, p. 279, fig. 12) is added at each side of the main panel. The space covered by the handles is usually left undecorated. Several fragments also showed that in lieu of handles the vase had a small boss on each side.

The greatest variations occur in the technique. The clay runs through all shades of red, with a slip that is generally red but in some cases a vivid yellow. The most interesting technical feature is the contrast obtained by subjecting a part of the vase to a stronger fire, in such a way that half of the vase is black and the other half red. As the line of separation is very strongly marked in many fragments, we can only suppose that the result was obtained by covering over with moist clay that part of the vase on which the decoration was to remain black, leaving the other part exposed to the full action of the fire. The interior, of course, was treated in similar fashion, as the glaze shows the same contrasts of red and black.

This same peculiarity may be seen on Mycenaean vases, but on them the contrast obtained is not quite so decided or regular. Outside of the Heraeum this peculiarity occurs but seldom. A pyxis cover from Aegina (Pallat, *loc. cit.* p. 306, fig. 24) shows this same technique, and similar instances occur on a few fragments from the Acropolis and on a skyphos at Syracuse, Case VIII. No. 2132, the upper part of which is grayish green, and the lower yellowish red, the line of separation being strongly marked. It is not clear from Orsi's words (*Not. d. Scav.* 1891, p. 415, "due skyphoi neri" etc.), whether similar fragments have been found there. On the whole, as this technique is met with but seldom outside of the Argolid, it is possible that we may detect here a distinct Argive peculiarity.

The following fragments best illustrate the technique; the clay is practically the same in all, — reddish, with a yellowish or greenish slip.

PLATE LXIV.

2. Rays and triangle in dark brown. Bands in red.
3. Zigzags and upper series of bands in black; deep red glaze on lower part.
4. Geometric snake, zigzags, and vertical bands in black; upper bands of rim and below the main frieze in red.

The introduction of the snake on these skyphoi is rather rare; no other similar instance was found at the Heraeum.

Quite a number of fragments, mostly of skyphoi, of which PLATE LXIV. No. 5, is an example, showed a peculiarity which is probably accidental. These were all of reddish clay, with a bright yellow slip, but with their glaze and decoration worn off in streaks. The decoration had assumed a brilliant pink color. Whether this is the result of the nature of the soil in which these fragments lay, or some peculiarity in the glaze, I cannot say. A skyphos of precisely the same appearance is at Syracuse (*Not. d. Scav.* 1895, p. 183).

Lastly a small number of fragments, which probably came from the burnt layer of the Old Temple, though the places where they were found are not specified in any note of the excavation. These fragments had been burnt almost black, and in such a way that their decoration, which was originally black, now appears dark red. This is clearly the result of some action of fire after the vase was completed, and was not intentional.

Besides the motives mentioned above, a few more may be mentioned which were only found on scattered fragments.

PLATE LIX.

9. Lozenge chain, of interlaced lines. Two distinct rows of lozenges are used combined together. The upper part of this fragment is black; the lower, red.

10. Here a second narrow frieze with a lozenge chain is introduced below the meander border. Similar technique to 9.

11. The panel is here separated from the rim by the Linear system, and contains a fish and part of a second. Incised lines are used. This is the only example of a fish among the Argive fragments from the Heraeum.

b.

Fig. 64. Height, 00.72 m.; diameter, 00.85 m. Reddish yellow clay, with dark red glaze. Border, vertical lines, and zigzags on rim, horizontal stripe on each handle.

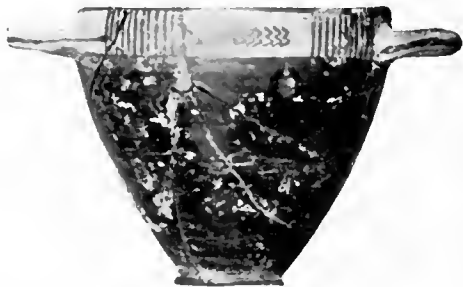


FIG. 64.

This type is too common to need any comment. Fragments of similar vases were found in large quantities at the Heraeum.

The combination of Classes a and b is shown by PLATE LXIV. No. 3. Many vases of Class b, especially the very small ones, have a broad band of dark red applied to the glaze beneath the rim, or a series of narrow purple bands.

Type 3.

Skyphoi belonging to Type 3 are not very numerous, only half a dozen being found intact, and very few represented by fragments. These are very low in proportion to their diameter, with large handles. The rim is sharply defined, and there is no indication of a foot. The decoration follows the usual Linear scheme.

This shape seems to be more usual in the Geometric style. Cf. Wide, *Jahrb.* XIV. (1899), p. 214, figs. 96-98, and p. 215, fig. 100.

Fig. 65. Height, 0.047 m.; diameter, 0.095 m. Reddish yellow clay, with black decoration changing to dark red. Border of zigzags and vertical lines.

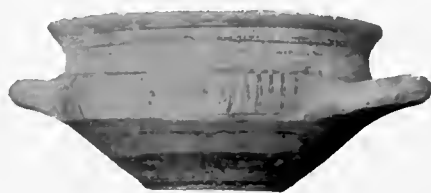


FIG. 65.

Several others were found with their exteriors completely glazed except for a narrow border along the rim as in Type 2, Class b. Similar skyphoi are at Syracuse (Case VII.) and at Naples (*Rac. Cum.* left-hand case, No. 85184).

Miscellaneous.

12. From rim of skyphos, with a handle arranged as in the 'amphora a colonnette.' On shoulder, Geometric snake.

This skyphos does not seem to agree with any of the types already mentioned. Although no other similar fragment was found at the Heraeum, several may be found in Syracuse (*Not. d. Scav.* 1893, p. 477; 1895, p. 176). Such cases are clearly older than the Corinthian style and form a preliminary step to the 'amphora a colonnette.' Cf. *Jahrb.* I. (1886), p. 135, fig. 2941; Wilisch, *Altgriechische Thonindustrie*, p. 27.

Fig. 66. Fragment of skyphos. Reddish clay, with black decoration. On the border of rim a lozenge of interlaced lines and two vertical lines separating a panel in which the rear part of a water bird is visible.

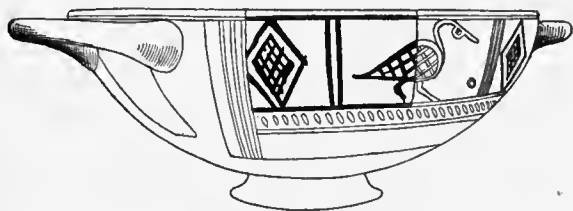


FIG. 66.

As no other fragments of this vase were found, a conjectural restoration based on the similar vase from Aegina (Pallat, *loc. cit.* p. 272, fig. 7) is here offered.

This skyphos belongs to a series of vases of which several are already known.¹ Our fragment resembles the vase from Aegina so closely that it might be considered as belonging to the same vase. The general character of the fragment is much more in keeping with the Argive style than the Geometric, and hence I feel no hesitation in classing it with the former style. In spite of vases of this description having been found at Rhodes, there is certainly no reason for calling them Rhodian, since they have nothing in common with the style of that name.

PLATE LXV. 1 a and b. Five fragments of a large skyphos, height and diameter uncertain. Fine reddish yellow clay, with brilliant yellow slip, slightly greenish in places, with decoration varying between dark brown and red. Brownish yellow paint has been applied in some places after the first firing. No glaze on the interior. From the large size of the vase, together with the absence of glaze on the interior, the form would seem to be a *deinos* rather than a skyphos.

An elaborate system of palmettes is here seen, separated from a ray pattern below by the usual Linear system. The central leaves of each alternate palmette are in brownish yellow. The centres of each palmette are formed by three lines, the intervening spaces being cut out, and no slip being left; and the same is true of the spaces which divide the central petals.

A fragment, almost exactly similar, was found at Aegina (Pallat, *loc. cit.* p. 279, fig. 12, p. 280, fig. 12 a), for whose restoration our fragment formed the basis. From the presence of a meander border above the palmettes on the Aegina fragment, it may be

¹ These are: Syracuse, *Ann. dell' Inst.* 1877, tav. d' agg. C D 5; Rome, Villa Papa Giulio, Thera (Pallat, *loc. cit.* p. 272); Louvre (2), Pottier, *Vases*, pl. xi. A, 290 (both from Rhodes); British Museum, from Rhodes; also similar

fragments from Daphne and Naukratis, Boston, Museum of Fine Arts, which also has a vase almost precisely similar from Cyprus (deviations in red).

inferred that the same motive figured on our vase. The restoration of our fragment differs materially from that of the Aegina fragment, in that the lower portions of each palmette are closed by the line border. It must, however, be said that the restoration of the tops of each palmette is conjectural, at least in the case of the four-leaved palmettes. Symmetry demands that the central lobe of the three-leaved palmettes should be the same at the top as at the bottom, and for the same reason the two central lobes of the four-leaved palmette should correspond at the top to the broad base.

In spite of the advanced character of the palmettes, the presence of the meander border on the Aegina fragment is sufficient to warrant this vase being assigned to Class II.

Sugar-Bowl Form.

The form is akin to *Berl. Cat.* pl. v. 104, and Wilisch, *op. cit.* pl. i. 11.

Fig. 67. Height, 0.066 m. Greenish clay, with black decoration. Six purple stripes added on body and shoulder; rays on base, vertical zigzag borders on body. Intact.



FIG. 67.

This was the only example, whole or in fragments, among the Argive vases, of the sugar-bowl vase, which is such a characteristic shape of the Corinthian style. The cover was not found, or could not be identified.

Pyxides.

The fragments of pyxides and their covers filled something over two baskets. Few of these could be restored entire. The number of covers found was far in excess of the vases represented by the fragments, — in fact, three or four times as many covers were found. No explanation for this fact is forthcoming, unless the covers were intended for skyphoi and other vessels with a wide opening.

As very few of the covers could be identified as belonging to any particular vase, and as the variations in their form are somewhat marked, they will be discussed separately.

Two types of pyxides may be noted.

1. Those whose covers rest directly on the rim (Wilisch, *op. cit.* pl. i. 3).
2. Those whose body is entirely hidden by the cover, like a modern cheese-jar (Wilisch, pl. i. 4).

Type 1 falls into two divisions.

- a. Pyxides with curved or sloping sides (*Berl. Cat.* pl. v. 103).
- b. Pyxides with straight sides (*Berl. Cat.* pl. v. 101).

Type 2 falls into two divisions.

- a. Sides sloping inward, without moulding.
- b. Moulding on base, into which the cover rim fits.

The pyxis seems to be a commoner type in Class II. than in Class III. of the Argive period. The decoration does not vary to any extent. As a rule the body is covered with parallel bands, leaving a border at the bottom for a ray pattern, and one, sometimes two, borders below the rim, which are filled with the usual Geometrical designs. The interior is invariably covered with a dark glaze, which is never found on the under side of the cover.

Type 1 a.

Few vases are represented by the fragments of this type. The only one preserved whole was 5 cm. in height and 9 in diameter, and was made of a coarse reddish-yellow clay, without any decoration. The other fragments show a ray pattern at the base and an incised tongue pattern as a rim border, with the alternate spaces colored very much yellow or red, faded.

Type 1 b.

To this type belong the bulk of the pyxis fragments. About a dozen vases were restored almost entire. As a rule the vases are rather small, varying from 4 to 5 cm. in height and 8 to 10 cm. in diameter. The decoration shows generally the following characteristics:—

Entire side covered with parallel bands.

Border on rim (generally zigzags in series).

Border on base (ray pattern, zigzag or "Running Dog").

Fig. 68 a and b. Pyxis and cover. Height, 0.182 m. Missing portions restored in plaster. Greenish yellow clay, with black glaze on interior almost obliterated. Black decoration faded in parts.

Pyxis. On rim border with Geometric snake. Vertical and horizontal zigzags as ornaments in field. Incised dots on snake's body. "Running Dog" pattern on

handle. Below, a frieze of rays at top and bottom alternately (incised lines) and scroll pattern. On bottom of pyxis, four series of three concentric bands.

Cover. In centre five-pointed star. Border of cover precisely similar to upper border on the pyxis. On button four pot-hooks. A similar snake may be found on a Geometric amphora cover; v. *B. C. H.* XIX. (1895), p. 276, fig. 2.

A few fragments of another pyxis (9 cm. in height) of precisely similar clay and decoration were found. The glaze, however, was in better condition, and the concentric bands on the bottom more finely drawn and more numerous.

Fig. 69 a-f. Pyxis and cover, found on Old Temple Terrace. Height, 0.13 m.; diameter, 0.28 m. Missing portions restored in plaster. Light red clay, with black decoration burnt red in parts. Glaze on interior varying from black to deep red.

Pyxis. On edge of rim short parallel stripes. On rim border of three meanders in separate panels, with an eight-pointed star separating them from the handles. Single meander on the handles. Separated from the upper border by a checkerboard and band of "Running Dogs" is the main frieze, with an elaborate floral pattern, the vacant spaces being filled by lozenges in series of fours and flower scrolls. On base rays. On bottom (**Fig. 69 b**) lotos pattern with incised lines.

Cover. Clay slightly redder in tone, with ornamentation similar to that on the

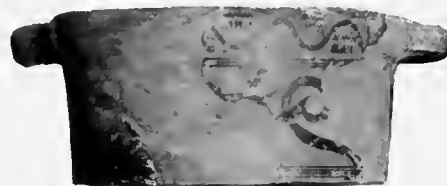


FIG. 68 a.

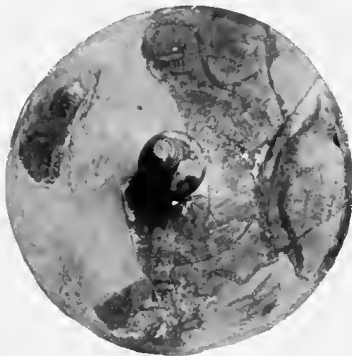


FIG. 68 b.



FIG. 69 a.

bottom of the pyxis, and a ray border. The slip is burnt bright red as far as the ray border and then changes to a light gray. The button is restored, but the shape is probably correct.

This pyxis would seem to fall in the latter period of the Linear Argive class, at a time when the eastern influence was beginning to make itself felt, since the elaborate flower and lotos motives on the body and cover are certainly derived from some foreign source. At the same time the presence of the purely Geometrical motives is sufficient warrant for including the pyxis in Class II.



FIG. 69 b.

of the scrolls are shown in the cut. The ornamentation on both cover and bottom seems to have followed a similar scheme, and though it cannot be restored with absolute certainty, it is probably treated in similar fashion to the flower scrolls on the side. A skyphos in the British Museum (*Athen. Mitt.* XXII. [1897], p. 286, pl. vii. 3) shows precisely the same form of lotos or palmette under the handle. With that exception, I have failed to find a similar instance, nor do I know of any case where the bottom of a pyxis contains such an elaborate ornamentation as here.

The change in color on the cover finds its parallel in a cover from Aegina (v. Pallat, *loc. cit.* p. 300, fig. 24).

Type 2 a.

Fragments of this type were extremely scarce, and generally belong to the bases of these vases. Such fragments had pure linear decoration.¹ The following fragments alone are worth noticing.

13 a and b. (PLATE LIX.) Two fragments of pyxis, **a** base, **b** cover. Greenish clay, black decoration, with black glaze on interior of pyxis and cover as well. Around base band of vertical zigzags; above oblique parallel lines. Decoration on cover precisely the same. Two other fragments of the same vase were found.



FIG. 69 c.

¹ Several fragments clearly belonged to pyxides similar to *Ann. dell' Inst.* 1877, tav. d'agg. C D 9.



FIG. 69 d, e, f.

Type 2 b.

Fragments of this type were quite numerous, but all, with a few exceptions, belong to covers. **Fig. 70** shows the profile of one of the bases of the pyxis. The decoration on both pyxis and cover was always the same, and is usually more elaborate than on the covers of Type 1.

14 a and b. Two fragments of a cover. Height, 0.046 m.; diameter, 0.112 m.¹ Dark yellow clay, with brown black decoration. Ribbed moulding on corner and plain moulding on base. Vertical zigzags, bounding a panel in which the rear part of an animal (bull, probably) is seen. Leaf rosette on top of cover.

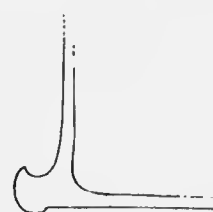


FIG. 70.

15. Fragment of cover. Height, 0.031 m.; diameter, 0.088 m. Reddish clay, with red decoration. Simple moulding on corner and base.

16. Top of cover. Diameter, 0.152 m. Yellow clay, with red decoration. Four borders of zigzags, tongue pattern, checkerboard and tongue pattern. Dark red color is applied to the tongues in series of threes and twos.

Other fragments showed the usual Linear motives, one having a frieze of water birds.

Covers.

FIG. 71.

The covers which belong to pyxides of Type 1 were so numerous as to demand a separate discussion. A large number were recovered almost intact (the knob being generally broken away) and the fragments filled about a basket.

Some four or five hundred covers were represented, a number far exceeding the pyxides found.

Two types are represented.



FIG. 72.

1. Without flanges. These fall into two divisions.

a. Those which sink down in the centre and whose edges fit directly on the rim of the pyxis.

b. Those whose edges turn down sharply at the end and fit over the rim of the pyxis (**Fig. 72**).

2. With flanges. These are provided with a small flange just under the edge, which fits inside the rim of the pyxis, like the cover of a lady's powder box. The variations lie principally in the angle formed by the upper part of the cover and the varying distance between the flange and the edge of the cover. (**Fig. 73**.)



FIG. 73.

As all the covers follow a stereotyped system of linear ornamentation, none have been included in our plates. Such as are noteworthy are shown in outline.

¹ The dimensions of 14-16 are the original diameter of the covers.

Type 1 a.

Only one specimen of this type was found (**Fig. 71**), 10 cm. in diameter. The entire surface of the exterior was covered with a black glaze, with a broad band of the natural clay near the rim.

Type 1 b.

No covers of this type were found intact. The decoration consists invariably of broad or fine parallel lines, in black and red. On many the two are seen together with a sharp line of demarcation. The clay is much thinner than in covers of Type 2, which may account for all being in a fragmentary condition.



Fig. 74.

Fig. 74 illustrates a type of cover which is equally connected with both Types 1 and 2.

Type 2.

The covers belonging to Type 2 were by far the most numerous. Though exhibiting considerable variation in their decoration, the general scheme seems fairly distinct.

Entire surface glazed.

Entire surface covered with parallel lines.

Both combined; i. e. the centre is glazed and the bands are confined to the outer part.

Rays in centre (usually six or eight pointed star) surrounded by bands. Covers showing the finest technique belong to this type.

Checkerboard on rim.

Zigzags in series on rim.

Tongue pattern on rim. Incised lines used to mark each tongue, with the application of purple, yellow, or white on alternate divisions.

Knobs.

Nearly a basketful of the knobs which form the top of the covers was found, and these also show a surprising amount of variation. As few of the covers were found with



Fig. 75.

their knobs, a separate treatment is again demanded. These knobs do not seem to be governed in any way by the cover types, but fall into peculiar types of their own.

Three types are represented (**Fig. 75**).

1. Truncated cone. Double division.
 - a. Simple truncated cone (1); top is occasionally rounded.
 - b. With a flange at the top. This may be either an inverted truncated cone (2) or a section of a cylinder (3).
2. Ball shaped. Double division.
 - a. Plain (4).
 - b. Small nipple or projection in the centre (5).
3. Flat. Double division.
 - a. Inverted cone; often with a slight sinking in the centre of the flat top (6).
 - b. Section of a cylinder (7).

The decoration is generally the following: —

Glazed.
Vertical parallel bands.
Rays.
Zigzags.
Checkerboard.
Leaf rosette.
Tongue pattern.

As the available space for decoration is small, these motives are not combined, except in one case where a leaf rosette was bordered by a checkerboard pattern.

Plates.

Fragments of plates were quite numerous at the Heraeum, about two basketsful being found. While many belong to the Geometric style, the majority of them belong to the second class of the Argive style. No fragments belonging to the first class were found, and only a few which belonged to the third.

Two types can be distinguished.

1. Flat base, without foot.
2. With foot.

Of Type 2, three variations appeared.

- a. Form similar to 1 save that a small flange runs around the edge of the base. The angle of the base and sides varies largely, being in some cases a right angle, in others an obtuse angle. The sides are usually straight, but occasionally curve slightly inward.
- b. The flange becomes a decided moulding and the sides are laid back very flat, forming with the base a line very nearly straight. The rim is also provided with a moulding.
- c. The curve from centre to rim is continuous and slight; the flange being placed around the centre of the base.

Type 1.

17. (PLATE LIX.) Half of a plate, measuring 0.127 m. in diameter. Dark reddish clay, with dark brown and red decoration.

Exterior. On base border of zigzags and bands; on side two narrow borders of zigzags and bands.

Interior. Similar decoration, with one zigzag border around the centre. **Fig. 76** gives the profile.



FIG. 76.

The other fragments belonging to this type (no plate being preserved entire) repeated the same scheme of decoration, with dots, vertical lines, or squares in place of the zigzags; the diameter of these plates varied between 12 and

15 cm. Another variety, represented by **Fig. 77**, showed a small moulding on the top and bottom of the exterior.



Fig. 77.



Fig. 78.

Type 2 a.

18 a and b. Two fragments from the same plate (profile in **Fig. 78**); diameter, 0.20 m. Dark red clay, showing traces of burning. Dark brown decoration on exterior, dark red on interior.

Exterior (**a**). "Running Dog" border around centre and bands; splashes on foot; "Running Dog" pattern on sides, splashes on rim.

Interior (**b**). Leaf rosette in centre with a border of alternate checkerboards and eight-pointed stars. "Running Dog" on sides.

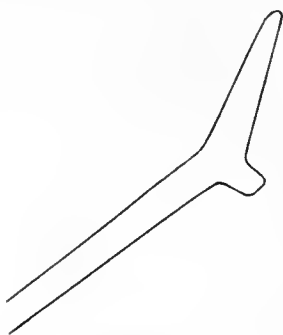


Fig. 79.

19 a-d. Four fragments from same plate (profile in **Fig. 79**). Grayish clay, with black decoration.

Exterior (**a and b**). Base entirely covered with a black glaze on which the ornamentation is incised. Series of diamonds radiating from the centre, each inclosing an eight-pointed star which in turn incloses a diamond. Alternating with the points of the large diamonds are smaller ones. On sides bands and "Running Dog" border.

Interior (**c and d**). The bottom is left the natural color of the clay with radiating series of diamonds, similar to exterior, in black; without incised lines. Side pattern same as exterior. On rim, splashes.

Two technical methods are seen on this plate, painted decoration on interior, and incised on exterior. This, in a way, is paralleled in later times by the combination of **b. f.** and **r. f.** work on the same vase.

Type 2 b.

Other fragments (generally from large plates, 15-20 cm. in diameter) show the usual motives, checkerboards, zigzags, snakes, rosettes, rays, etc. None present any marked peculiarities.

Fragments of this type showed no new features in their decoration. **Figs. 80 and 81** show the principal variations of the form. The plates were usually of a large size, 25 cm. in diameter. **Fig. 80** had bands for its sole decoration, purple being applied freely.



Fig. 80.

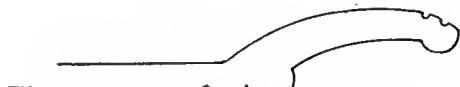


Fig. 81.



Fig. 82.

Type 2 c.

Fig. 82 (profile). Diameter, 0.191 m. Entire, save for a small piece. On rim vertical lines and just below rim on exterior Geometric snake (incised lines).¹ Outside and inside ornamented with concentric bands in series.

This was the only plate which was recovered entire. Fragments of similar plates were numerous, but all showed the same decoration of concentric bands.

¹ The exterior was practically identical with the cover of a Geometric vase from Athens (*B. C. H.* XIX. [1895],

p. 276, fig. 2), the snake being treated in precisely similar fashion.

MISCELLANEOUS FORMS.

Kothons. (*Berl. Cat.* VI. 111 and 112.)

This form of vase is shown by a few dozen fragments, none of which permitted any restoration. Furtwängler, in his catalogue (1100–1107), assigns all the vases in Berlin to the Corinthian style. The bulk of the Heraeum fragments, however, belong to the Argive style. One fragment was distinctly Mycenaean in character and another Geometric. Several of the handles showed traces of decoration which would warrant their belonging to the Corinthian style.

No fragments have been reproduced in our plates, since their decoration differed in no way from the usual Argive scheme. Bands encircling the rim, leaving the body of the vase plain, were the usual type, though lozenge and zigzags on the body were also found.

Ring-Form Aryballos.

Fig. 83. Height, 0.126 m.; diameter, 0.10 m. Dark red clay. Neck, handle, foot, and one side restored.¹ Around neck and base, rays. On front side interlaced lozenge pattern, with small circles at corners. On one side double guilloche; on other (almost entirely gone) a frieze, probably of animals. About a dozen fragments from similar vases were found.

The form differs somewhat from *Berl. Cat.* V. 110.

Several of the smaller vases which clearly belong to the Linear Argive class show a marked connection with the Geometric style. The clay in these vases is distinctly that used in Geometric, not Argive vases. The presence of similar vases in other parts of Greece has induced Dümmler² and Pallat³ to regard them as imitations of Argive ware. It seems hardly likely that these small and unimportant vases should be avowed imitations of the Argive style made by potters who manufactured Geometric vases; more probably they are really Argive vases, the clay for some reason or other being that usually employed in the Geometric style.

Half a dozen complete vases of this kind were found at the Heraeum and quite a number of fragments.



FIG. 83.

Jugs.

Fig. 84. One-handled jug. Height, 0.065 m. Lip (probably trefoil) broken away. Coarse dark red clay, with reddish brown slip, decoration varying from brilliant black to dark brown. Stripes and triangles (interlacing lines) on shoulder; stripes on neck and handle. On either side of base of the handle a breast-like protuberance.



FIG. 84.

Similar examples have been found in Boeotia⁴ and Tiryns.⁵ The protuberances seem to denote a survival of prehistoric characteristics.



FIG. 85.

Fig. 85. One-handled jug. Height, 0.055 m. Reddish clay, with polished yellowish brown slip, dark brown decoration. Stripes on neck, handle, and base, three borders of zigzags and rays (points downwards, inclosing lozenges) on shoulder.

¹ That a foot was represented is clear from the rays around the base and a comparison of an aryballos in the British Museum from Kameiros, A 1075. Cf. *Jahrb.* II. (1887), p. 56, fig. 21.

² *Jahrb.* II. (1887), p. 20.

³ *Athen. Mitt.* XXII. (1897), p. 271.

⁴ *Jahrb.* III. (1888), p. 353, fig. 32, and XIV. (1899), p. 53, figs. 111 and 112.

⁵ Schliemann, *Tiryns*, p. 400, No. 135.

Some three or four other jugs similar to **Fig. 85** were found, also fragments of oinochoai with the usual zigzag decoration, and a few fragments of skyphoi, with water birds in panels.

Openwork Vases.

The following fragments form a separate type by themselves, though not found in very large quantities. They belong to vases of the kalathos form, whose sides are pierced at intervals by openings, giving the effect of a basket. We have already seen this openwork principle applied to the supports of Geometric vases; Argive vases of the openwork type, however, were probably never used as supports, being far too small and fragile. Moreover, having a distinct kalathos shape, it is probable that we have here a separate variety of that form. It seems certain that these were a direct imitation of metal work, but an imitation which did not arise until after the Mycenaean epoch, seeing that metal vases of this description are not found in Mycenaean times. In view of their technique, it is probable that they belong to the early period of Class II.

Two separate forms of openings may be distinguished: (a) either the vase is divided into a series of legs with a long narrow opening sloping slightly from rim to base (in some cases these legs are joined halfway, thus giving a double series of openings), or (b) the vase is divided into two or three sets of triangular openings. Both methods may be employed on the same vase.

The scheme of decoration is simple, the available space being extremely small. Either the entire vase is covered with a dull black or brown glaze with parallel stripes of applied purple, or else to the natural clay parallel stripes are applied, leaving the rim free for a border of some pattern, zigzag, etc., etc.

20 a and b. (PLATE LIX.) Two fragments form a vase 13 cm. in diameter. Height cannot be determined. Greenish clay, with decoration in black and dark brown. Parallel stripes on sides, zigzags in series on rim.

This was the best preserved vase of form a. Some half a dozen bases and numerous fragments were found; one base showed a rather high foot with ray pattern.

Of form b only a few bases and fragments of sides, in very bad condition, were found.

Instances of such vases outside of the Argolid are not very common. There are three in Athens (No. 232 from Corinth, No. 10969 from Eleusis,¹ and a third) which have the series of triangular openings; one in Syracuse (Megara Hyblaea, tomb 640), one in the British Museum (A 1601), and one from Falisco (*Mon. Ant.* IV. pl. vii. 17). Somewhat allied is the kalathos in *Jahrb.* III. (1888), p. 241, fig. 23. Cf. also *Jahrb.* VI. (1891), p. 116, No. 9.

What the purpose of these vases was cannot be told with any certainty.

CLASS III.

ORIENTAL ARGIVE.

It is a difficult problem to decide how much outside influence caused the development of the Argive style from Class II. to Class III., and whence such an influence originally came. That the third class developed unassisted by such outside influence is impossible; at the same time the elements which are vital to the style, the parallel bands, incised lines,² ornaments in field and application of color have been seen either in Class II. or else

¹ I am not certain whether this is the vase described by Skias, *Εφημ. Ἀρχ.* 1898, p. 107, fig. 27.

² Boehlau is inclined to regard the Larissa fragments (*Aus Ionischen und Italischen Nekropolen*, p. 87, figs. 38-40)

as the earliest use of the incised line. Several of our fragments (v. p. 127) are certainly older; that the incised line was a foreign innovation in Greek pottery I see no reason to believe.

in Geometric ware. Although the animal frieze comes into the Argive style during the end of Class II., it is very common during the middle Geometric period. Clearly it is some other characteristic which distinguishes Class III. from its predecessors.

This can only be the development of purely decorative patterns, such as the lotos, palmette, etc. Boehlau (*op. cit.* p. 108) has pointed out that the wreath pattern and dotted rosette are foreign to the early Attic style while thoroughly characteristic of the Argive (still termed by him Proto-Corinthian). It is this innovation combined with a wealth of decoration, incised lines, and recognition of the animal frieze as a principal scheme of decoration that constitute the elements of Class III. The presence of the curved palmette on the pyxis (cf. **Fig. 69**), combined with the Geometric motives, marks the transition stage between Classes II. and III., and also stands as one of the earliest examples of the palmette with curved stem. Boehlau's analysis of its development (*loc. cit.*) seems to be confirmed by our pyxis.

I do not, however, feel that he is right in contending that the Corinthian style cannot have developed from the Argive, as that would have been a "Rückschritt zur Zeit der Blüthe korinthischen Handels und Industrie" (p. 114). To my mind this objection cannot hold, since we know that Corinth possessed no previous ceramic art of her own, and, as was said before, the chief difference between the Corinthian style and Class III. of the Argive is that between skilled and unskilled labor, the foreign influence being the same in both. Why should we seek the direct prototypes of the Corinthian style in Asia Minor, when the Argive style, with which it has so much in common, lies so close to our hand?

The shapes included in Class III. have all been seen before in the previous classes, no new shape being introduced. They are:—

Lekythos,
Oinochoe,
Jug,

Skyphos,
Pyxis,
Plate.

Lekythoi.

The lekythoi follow one form (*Berl. Cat.* V. 102) with little variation, and were rather small, not more than 6 cm. in height. About twenty were preserved more or less intact, while at least fifty more were represented by fragments. The scheme of decoration is the same on all, parallel bands inclosing an animal frieze, or else the body of the vase is adorned with a plant pattern or some other similar decoration.

Although the use of incised lines to emphasize details does not originate in this period, it is one of its chief characteristics. Whether those vases which belong to Class III. but do not show this feature are necessarily older than the incised vases cannot be asserted with any accuracy. It is probable that for a time the use of both incised and unincised vases was common, and that the former technique supplanted the latter as the style became advanced. Certain it is that all vases which belong to the most advanced stage show the use of the incised line.

The lekythos described on p. 127 properly belongs to a stage between Classes II. and III. We have there the animal frieze in its simplest form, but without the use of the incised line.

Fig. 86. (Drawing on PLATE LXIV. 11.) Height, 0.043 m. Light greenish clay, with brilliant black decoration. Part of rim broken away, but traces of a ray pattern are still to be seen. Dots on neck, *guilloche* on handle, pot-hooks and rosettes on shoulder. Main frieze: three series of two concentric circles (with central dot)¹ separated by a palmette, ivy branch, and *guilloche*

¹ For similar arrangement of circles see *Ann. dell' Inst.* 1877, tav. d' agg. A B 15. There is a similar lekythos in Berlin, recently acquired.



FIG. 86.

(directly under handle). In field five small circles and a Γ . Decoration worn away in places.

The form of this vase is slightly plumper than the usual type, which, combined with the absence of any animal frieze or incised lines, may point to this lekythos being one of the earliest instances of Class III. In spite of a certain reminiscence of Mycenaean motives, the palmette and ivy branch are distinctly characteristic of the later period of the Argive style. More remarkable is the treatment of the palmette as a separate motive without any connecting stems. We usually find the palmette combined with others in a chain and confined to the shoulder as

a purely subordinate motive.

Fig. 87. Fragment of lekythos. Height, 0.033 m. Slate-colored clay, extremely fine, being almost as thin as fine cardboard. On shoulder, dots, rays, and a row of simple zigzags. Main frieze: four-spoked wheel and part of a circle with a leaf border inside. In field, bull's head full front, rosette, dotted circle, and a human head (probably female) in profile to right. Incised lines on the two heads.



FIG. 87.

The form of this lekythos is the usual type. It is somewhat allied to the preceding lekythos, in that the main frieze does not contain a series of animals, but circular motives. The wheel and the circle are common themes on Geometric vases. The use of the human head also is similar to that on the bottom of the oinochoe (v. p. 131).¹ I know of no other similar instance on an Argive vase. For the bull's head see **Fig. 88**.

Fig. 88 1-4. Height, 0.057 m. Found southeast of Second Temple. Greenish clay, with faded black decoration. On rim, rays with dots in the vacant spaces; series of alternating diagonal lines (suggestive of a herring-bone pattern) on handle. On neck ornaments shaped like an I. Palmette scroll on shoulder, with a hare on the right and some other animal on the left. Main frieze: in centre a bull's head, full front, with a bird below; to left two lions; to right lion and bull. Incised lines used on all the figures. Intact.

The style of the drawing is so distinctly primitive in its character, that its position as one of the earliest lekythoi of Class III. seems certain. That the drawing is not careless is proved by the extremely careful execution of the vase. Stylistically it is closely allied to the lekythoi in Dresden,² the British Museum,³ Boston,⁴ and the collection of Herr von Radowitz.⁵

Several features may be noticed. The bull is distinguished from the other animals by the shape of the hoofs and the *membrum*. The lion at the left (below the handle) has his body adorned with dotted circles and turns his face to the front as in the Corinthian style. This is probably one of the earliest instances of this peculiarity, for all the earlier lekythoi show animals in profile. The bull's head in the centre is probably a mere ornament in field, though apart from the previous fragment I know of no similar instance on an Argive vase. We find it used twice on the shields of the Macmillan lekythos⁶ as a device. The other two lions bear a general resemblance to those on the Radowitz lekythos.

The ornament on the shoulder (3) shows the palmette scroll in its simplest form, but the addition of animals, either as ornaments in field or as part of the design, is new to me. That the right-

¹ Cf. also PLATE LVI. 7.

² *Arch. Anz.* 1894, p. 33, fig. 37.

³ *Arch. Zeit.* 1883, pl. x. fig. 2.

⁴ *A. J. A.* 1900, p. 454, pl. vi.

⁵ *Arch. Zeit.* 1883, p. 161.

⁶ *J. H. S.* XI. (1890), pls. i. and ii. p. 169.

hand animal is a hare is certain, but the identity of the other is doubtful. The assertion is frequently made, but without positive proof, that in vases of the Corinthian type, especially of aryballoi, where two panthers are seen with heads full front together and bodies in profile, that one



2
FIG. 88.

panther only is meant, and that by some curious conventionality of ideas both sides of the animal were to be seen at the same time. In the case of our animals, two legs only are given to each, and as the left side of the shoulder of the vase has suffered abrasion, it is possible the animal there had an ear; in that case one hare was probably intended, but split in half, and each side arranged symmetrically at each end of the palmette scroll.

Fig. 89. (Drawing on PLATE LXIV. 12.) Height, 0.044 m. Neck and handle missing. Yellow clay, with dark brown and reddish brown decoration, very brilliant. On base of handle, traces of a zigzag with small lozenges as ornaments in field. On shoulder, leaf rosette; on body, two friezes. Main frieze: panther, owl, panther and boar. Dotted rosettes, halved lozenges, and what may be a scorpion or a lizard,¹ as ornaments in field. Lower frieze: three dogs to right, with a single dotted rosette separating two of them. On base, rays. Incised lines used on all the figures.



FIG. 89.

In this vase we have an example of the latter period of Class III., but there are no striking features. The drawing is fair, especially good in the case of the boar. The

¹ As on Geometric vases. Cf. PLATE LVII. 24.

owl belongs more properly to the Corinthian style; its presence here (I do not know of its occurrence on any other Argive vase) is a point in favor of its later origin.

PLATE LXIV. 9 a and b. Upper part of jug in form of a plastic male head, with the opening at the back. Height, 0.036 m. Dark reddish clay, with a pale yellow slip, red color applied. Hair, eyes, and beard expressed by incised lines. Through the head is a hole for suspension.

The type of face resembles slightly that on the figures of the Mycenaean 'warrior' vase. At the same time the applied color, use of incised lines, etc., show plainly that the vase belongs to the later Argive period. What the form of the vase was is uncertain;¹ it may have been similar to a jug from Cyprus (*Berl. Cat.* 72; Baumeister, *Denk.* p. 1951, fig. 2081). At all events, it is probably considerably earlier than the following vase.

PLATE LXIV. 10 a and b. Height, 0.024 m.; diameter, 0.026 m. Top of lekythos. Greenish clay. Neck in form of three plastic female heads, with long hair, colored black, red, and blue respectively. On rim (badly broken), three borders of rays, pot-hooks, and wave pattern.

This fragment is the most perfect of any fragments of this period, and it is fair to assume that the remainder of the vase would vie with the best specimens of the style in point of execution. That this fragment belongs to an Argive lekythos seems probable, in view of the ornamentation of the rim.

The making of vases in 'Anthropomorphic' form is no new feature in Greek art, but the instances of it in the Argive style are rare. Somewhat allied to it is the Macmillan lekythos, though the top of that vase takes the form of a lion's head. The use of a human head (generally a female) on the rims of skyphoi or tops of pyxides of the Corinthian style is well known; this feature in the Argive style must mark the last stage of Class III.

21. (PLATE LIX.) Fragment of lekythos, form a trifle more rounded than is usual. Light greenish clay, black decoration. Warrior, head and fore leg of horse, with a crossed lozenge as ornament in field.

This fragment is curious in design and differs from the usual treatment. The silver *situla*² in Florence, a Phoenician or Etruscan work of the latter part of the seventh century, presents a similarity, which is so strongly marked as to afford grounds for deriving both from some common influence, though what that influence was cannot be determined with certainty. The warrior on our fragment wears a helmet, shield, and sword quite in the manner of his fellow on the *situla*. The arrangement of the bridle is curious, and I have been unable to find any analogous instance. The shield device is paralleled by some of our Geometric gems, and may point to our fragment as belonging to the elder period of Class III.

The vases just considered are the best examples of the lekythoi belonging to Class III. that the Heraeum yielded. The other vases and fragments did not differ materially from the types already discussed. Several of the lekythoi partially whole showed a double frieze of animals on the body, though a few fragments showed the animal frieze on the shoulder as well. One fragment had a broad border on the body left in the natural color of the clay, with a pomegranate chain on the shoulder somewhat after the Cyrenaic style. Several fragments showed the heads of sphinxes, a creature not as usual in the Argive style as in the Corinthian. As a whole these lekythoi are not superior to the types found in other parts of Greece.

Oinochoai.

The fragments of oinochoai were more numerous than those of the lekythoi, but the number of oinochoai preserved whole or partially was small. The technique is rather more

¹ A head somewhat similar may be found on a Ring-form Aryballos in Dresden (*Arch. Anz.* 1862, p. 162, No. 25). Although belonging to the same period as our frag-

ment, it is fairly certain that ours did not belong to a vessel of similar shape.

² Amelung, *Führer durch die Antiken in Florenz*, p. 199, No. 221; Ingherami, *Mon. Etr.* III. pls. xix., xx.

advanced, some of the fragments being unexcelled by any Argive vase in point of delicacy and freedom of execution.

Two types may be observed.

1. Exactly similar to Type 1 on p. 128.
2. The Italo-Corinthian form (Wilisch, pl. ii. 16).

Type 1 consisted mainly of small vases, which were fairly well preserved, several vases being more or less intact; of Type 2 nothing but scattered fragments were found, and in no case could any vase be reconstructed. The shape of such fragments was the only guide in determining their form.

Type 1.

Two varieties of decoration are to be seen.

- a. Upper part of body adorned with an animal frieze, the lower containing the usual line decoration.
- b. Body of vase entirely occupied by the animal frieze.

a.

Fragments of this type were not very common. The simplest form corresponds in decoration to the lekythos on p. 127 (**Fig. 55**), having a frieze of animals (usually dogs) of the plainest description, without incised lines and with no ornaments in field except occasionally a dotted rosette. Some fragments showed two friezes on the body. Where the single frieze occurred, the lower part of the body was encircled by the usual parallel bands, or with a ray pattern on the base separated from the animal frieze by a checkered border or row of zigzags.

As a transitional type between **a** and **b**, a small oinochoe may be mentioned. This was 63 mm. in height, of greenish clay, and had around the base a frieze of birds with numerous ornaments in field (slightly more advanced than the Geometric type), the upper part of the body and neck covered with zigzags and parallel lines, all the decoration being very much faded. Two similar instances are at Syracuse (Cases IV. and VII.; provenience not stated), both with faded decoration; that in Case IV. showed traces of applied dark red color.

b.

22. Fragment of body of oinochoe. Reddish clay. On shoulder, leaf rosette, purple applied to the alternate petals. Main frieze: panther (head full front, body in profile) and sphinx to right (and part of another panther). In field, rosettes, crosses, etc. On base, rays. Dark red color is applied freely to the figures and incised lines used. Several other fragments very similar to this were found, most of them belonging to the base and exhibiting the ray pattern, with here and there a part of the frieze showing the foot of some animal.

23. Fragment of body of oinochoe. Greenish clay. On shoulder, leaf rosette, with alternate petals in applied purple. Main frieze: panther and sphinx to right facing another sphinx whose fore paws only are still visible. Rosettes, rhomboids, circles, etc., as ornaments in field. Around base, row of dots. Dark red color and incised lines used freely on all the figures.

A few fragments of necks were found which showed traces of an animal frieze, in addition to the usual Geometric designs.

Type 2.

It is to be regretted that this class, which contains some of the finest specimens of the Argive style, should be represented only by scattered fragments. It may easily be seen that such fragments as are here presented stand in a close relation to the Corinthian style, but are vastly better in technique.

Only a few of the fragments are here presented, the others showing merely parts of legs, arms, ornaments in field, etc. A few fragments seemed to belong to an older type in that the body of the vase was taken up by two, sometimes three friezes, without incised lines. These were distinctly inferior in technique and included figures of sirens as well as sphinxes and panthers. Dark red color was applied but sparingly. Ornaments in field were not very numerous, though one fragment showed the entire background covered with small dots.

The size of the vases to which these fragments belong cannot be estimated.

24 a and b. Two fragments of an oinochoe. Yellowish clay with a reddish tinge, lustrous black decoration. On base rays, and above an animal frieze. On **a** rear part of horse and goat back to back; on **b** a goat to right. Technique excellent, with free use of incised lines; no ornaments in field.

25 a-e. Five fragments of an oinochoe. Yellow clay, with lustrous black decoration. Ray pattern on base, with a narrow rosette border above, separating it from two friezes of animals and men, with rosettes in field. Incised lines freely used and dark red (now turned brown) applied to the figures. Technique excellent.

How the friezes were represented is difficult to say; **a** and **b** show a warrior to right holding a sword in his right hand, a spear in his left hand, and **c** the head of some animal (perhaps a deer) below and the legs of another above. Perhaps a hunt of some sort may have been represented. Whether the bird on **e** formed part of another frieze or is merely an ornament in field is difficult to say; the latter supposition seems more probable. That **a** and **b** belong to the same figure seems probable, though certainty is impossible, there being no point of contact between the two fragments.

PLATE LXV. **2 a-c.** Three fragments of an oinochoe. Greenish clay. Free use of incised lines and dark red color applied freely.

a. Lower part of fragment is covered with a black glaze, on which are five parallel lines, two of yellow inclosing three of red. Above, on a whitish yellow ground (left white in the plate), the body and legs of a panther to left and the muzzle and fore leg of a deer, the figures being drawn in black.

b. From same frieze. Head and shoulders of a stag feeding to left,¹ with traces of a rosette (alternate dots in red) in field.

c. Above, in whitish yellow on a black ground, fore legs and part of hind paw of a panther to left. Below, on a whitish yellow ground, head of panther to right and rosettes in field. Red on rosettes and panther's head.

The true arrangement of these fragments is doubtful; it seems probable that the base of the oinochoe (represented by **a**) was covered entirely with a black glaze, with two friezes above, the lower white, the upper black, and that the rest of the surface was entirely covered by a black glaze. The legs of the panther on **c** are in the same color as the white ground of the vase.

These fragments, which are extremely fine in their execution, differ materially from other vases of the Argive or Corinthian style in the employment of two distinct backgrounds on the same vase, and suggests in a way the employment of two separate technical methods, such as we might expect to find in Asia Minor, and do find on sarcophagi from Clazomenae. In spite of the resemblance of an Aeolian oinochoe² to our vase, distinct technical differences exist. The white panther on the black ground is not drawn in incised lines (which are used to express details only), but the white paint has been applied over the black glaze, probably after the first firing. In that case the whole surface of the vase received its black glaze and black figures first, with the later addition of white figures painted on the black. It recalls in a measure that class of vases which combine both the black and red figure technique, where one figure is drawn in an incised outline and another painted in white with incised lines used to express details. But any actual connection between such vases and our fragments is not to be thought of. Also in spite of the very unusual

¹ This is one of the commonest motives in archaic vase painting. Cf. *B. C. H.* XXII. (1898), p. 441.

² Bochlau, *op. cit.* p. 99, fig. 48.

technique shown by our fragments, the style of drawing is so unmistakably Argive that no doubts can be aroused against their position in Class III.

As these were the only fragments found which show this peculiar double technique, speculation as to the influence which produced them seems futile. I should feel inclined to follow Boehlau's lead in supposing that the Aeolian ware was responsible, seeing that the relation between that and the Argive Class III. is very close. Whether any Rhodian influence (cf. *J. H. S.* VI. [1885], p. 184) was here at work is extremely doubtful.

Skyphoi.

Fragments and vases of this form were the most numerous in Class III. The majority of the fragments belong to large vases and show a style fairly advanced. Being more fragile than lekythoi, very few specimens were recovered unbroken. The form of the skyphos is the same throughout, the only variation being in the size of the vase. As in the case of the shapes just discussed, many fragments show an entire lack of incised lines and probably belong to an older class. The greater number, however, have incised lines, with purple, yellow, and red color freely applied. As a rule the bases are ornamented with a ray pattern, or parallel bands, the rest of the body being occupied by the main frieze of animals.

The rim is usually bordered by a Geometric pattern of some sort, occasionally by a second frieze of animals, narrower than the main frieze. The interior is always glazed red or black.

26. (PLATE LIX.) Greenish clay, with black glaze on interior, nearly worn off. Ray pattern on base and frieze of sirens; separated by a checkered band, what appears to be a second narrower frieze as a rim border.

27. (PLATE LIX.) Greenish clay, with dull black glaze on interior. Rays on base and animal frieze (cow). Cross as ornament in field.

This fragment is chiefly remarkable for the fact that it is the only fragment found at the Heraeum on which a cow is represented; this, in view of the close mythological connection between the animal and the goddess Hera, is rather surprising.

Fig. 90. Height, 0.047 m.; diameter, 0.066 m. Upper part with handles restored. Reddish yellow clay, with flaky black glaze on interior, decoration in dark brown. Frieze around base of panther and three other animals (perhaps deer) upside down. Poor execution.

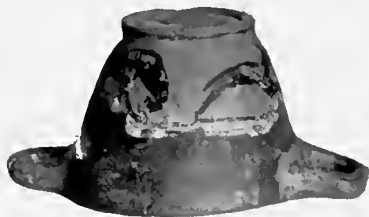


FIG. 90.

It is probable that two friezes were represented. For discussion of the inverted frieze, v. **Fig. 91.**

The fragments just discussed probably belong to the earlier period. **Fig. 90** is certainly very much akin to the lekythoi on p. 127, and may mark the transition stage between skyphoi of Classes II. and III. The

other fragments, which were quite numerous, do not differ materially from the usual types. The drawing of the animals was distinctly poor; dogs and panthers were chiefly represented.

Fig. 91. Height, 0.057 m.; diameter, 0.061 m. From Old Temple Terrace. Yellowish clay, with dull black glaze on interior, decoration in black and red. Main frieze (upside down) on base; three figures, man shooting an arrow at a deer to left, behind the man a lion with open mouth. Separated by a broad band is a narrow border on the rim with two vertical dashes on each side. Figures in dark red, incised lines used.



FIG. 91.

Fig. 91 forms a companion piece to **Fig. 90** save for the use of incised lines. Through its primitive execution it probably belongs to the early period of Class III. But the chief peculiarity of the two vases lies in the subject being drawn upside down.

This peculiarity is extremely rare in vase painting. We have already seen it in the case of the Mycenaean jug, **Fig. 20**, making three from the Heraeum. I have been able to find but one similar instance anywhere else, a small skyphos at Syracuse (*Ann. dell' Inst.* 1877, tav. d'agg. C D 4, p. 47, No. 13), on which is a frieze of water birds, the subject being inverted in the same manner. What the object was in doing this is decidedly obscure; it can hardly have been accidental.

Several vases of the type found at Syracuse (*Not. d. Scav.* 1893, p. 457, right-hand figure) were represented either whole or in fragments, their execution being decidedly hasty. Several fragments were found where two friezes were represented, separated by a checkered band, while a large number belonged to very small skyphoi with a single frieze and a border of zigzags along the rim.

The fragments of skyphoi which belong to the best period of Class III. are rather larger in size than those just described. All employ the incised line.

PLATE LIX.

28. Fragment of large skyphos of dark red clay, with dark brown glaze on interior. Dark brown decoration. On base, rays; above, frieze of animals (panther).

This fragment, though inferior in technique, bears a close relation to the skyphos from Aegina (Pallat, *loc. cit.* pl. vii.). The drawing of the panther, however, is firm and decided, if conventional. The field is divided by an arrangement of vertical lines, curved and straight, similar to that found on the neck of an oinochoe from Aegina (Pallat, *loc. cit.* p. 271, fig. 6).

29. Fragment of a large skyphos, of which several other fragments were found. Reddish clay, with black glaze burnt red in parts, on interior. Main frieze: head of panther and hind quarter of horse to right. Double lozenge in field. Above, smaller frieze as a rim border, dog to left; field divided by a Geometric triangle scheme.

Although no fragments of the base were found, it seems probable that the base had the usual decoration of rays, with the main frieze directly above them. Several dozen fragments belonging to equally large skyphoi were found.

30 a and b. Two fragments from a large skyphos. Dark yellow clay, with brilliant black glaze on interior; also on interior, just below rim, three stripes in applied color, the upper two white, the lower red. Exterior: on rim, border of water birds with sigmas in field. Main frieze: **a**, wings, head, and hind quarters of a gryphon; **b**, rear part of a bird or a siren, with the back of a crouching sphinx. Below, upper part of an animal belonging to a second frieze. Red is applied freely on all the figures. Rosettes, sigmas, etc., as ornaments in field. Several other smaller fragments were found.

That three friezes were represented on this skyphos is evident, though their arrangement cannot be discovered. One fragment showed the back of a boar and another a helmet with a flying bird over it. Whether a boar hunt was represented is doubtful; probably both the main friezes were occupied by the usual series of animals, sphinxes, gryphons, etc., a male figure (with a helmet) being introduced among them.¹

The style of the fragments represents the best period of the Argive ware. The border of water birds, so common in the earlier period, is here treated very freely and as carefully as the main friezes.

A dozen other fragments, from as many different vases, were found, which were very similar in technique to **30**.

31. Fragment of skyphos. Yellow clay, with bright red decoration. On interior black glaze,

¹ In similar fashion to the Argive lekythos in Boston, *A. J. A.* 1900, pl. v.

burnt red in parts. On base, ray pattern. Above, two friezes. Lower frieze, dog to right; upper frieze, panther to left. Reversed sigma in field. Red applied on dog's shoulder and belly of panther.

32. Fragment of small skyphos of coarse dark red clay. Rays on base and frieze above, part of goat and tail of a bird or siren. Free use of incised lines.

Several other fragments of this particular skyphos were found, showing that one frieze only was represented. The style of this fragment is most distinctly transitional from the Argive to the Corinthian, and is similar to a fragment found at Aegina (Pallat, *loc. cit.* p. 319, fig. 37). This pro-Corinthian type was common at the Heraeum, fragments of this kind filling half a basket. Most of the fragments belonged to bases, and were of a grayish or greenish clay, with a pattern of fine rays on the base and a frieze above; the technique was extremely poor.

PLATE LXV. 3. Fragment of small skyphos. Fine greenish yellow clay, with black glaze on interior almost entirely obliterated. Heads of two lions facing each other, drawn in black and red lines.

This fragment for fineness and delicacy of execution is equaled only by the best Attic red-figure work. The lines of the figures stand out from the surface of the clay as in Attic work, but the style and the use of the red line are most distinctly un-Attic; in fact, we have here a fragment of the Argive style in its most advanced stage and far superior to any Corinthian work. No other fragment belonging to this vase was found, and its shape is only established by the presence of a glaze on the back. Although this would argue also for a pyxis, the slight upward curve of the fragment makes a skyphos more probable.

Pyxides.

Except for the covers, practically none of these vases were found. One fragment of a pyxis showed two goats facing each other, but the lack of ornaments in field as well as the style would seem to assign it to the later period of Class II. The large pyxis on p. 137 may well be a transitional type from Class II. to Class III.

The same proportion between the pyxides and their covers, which we have already mentioned, held good in the case of Class III., as the covers were quite numerous, while hardly any pyxides themselves were found. The subject on all was the same, a frieze of animals on the outside, with or without ornaments in field, and rays radiating from the centre. The two best examples are given below.

33. Fragment of cover. Polished yellow clay, with dark brown decoration. In centre, rays; animal frieze, panther and part of another to right. Careful drawing, free use of incised lines.

34. Yellowish clay. In centre, rays; animal frieze, panther to left with rosettes in field. Checkered border. Decoration in black with red applied to panther's neck and belly. Incised lines freely used.

This is one of the best specimens of drawing. It is worth noting, as a curious fact, that the left-hand part of the fragment was picked up at the Heraeum by Dr. Olcott of the American School at Rome, in the spring of 1898, three years after the completion of the excavation, and on being brought to Athens was found to fit with a fragment excavated four years before.

A small cover was found with a single zone of figures precisely similar to those on an aryballos from Orchomenos (*B. C. H.* XIX. [1895], p. 196, fig. 18).

Jugs (Kannen).

Whether the following fragments are to be included under this head is doubtful, but as it does not seem possible to class them as lekythoi or oinochoai, the jug seems the only possible form. It is probable that the form of **PLATE LXVI. 3** corresponds more closely to jugs of the Phaleron type, and if a trefoil lip be assumed, it should by rights

be classed among the oinochoai. No trace, however, of a neck was found, so that the point must remain doubtful.

PLATE LXVI. 3. Two fragments from one-handled jug, similar in form, perhaps, to one from Megara Hyblaea (*Mon. Ant.* I. p. 811). Dark brownish yellow clay, with fine polished surface. Decoration from black to reddish brown. On base, rays. Main frieze: two sphinxes (back of head and fore legs of right-hand figure, lower legs of left-hand figure missing) facing each other, with an elaborate scroll pattern between them. On the left, tail of an animal (probably a goat); and on the right, body and legs of another goat. Crosses and rosettes as ornaments in field. On shoulder, rays (of interlacing lines) alternating with pot-hooks. Incised lines freely used, and the wings of the sphinxes are treated alternately in black and natural clay divisions, the latter ornamented with dots; the leaves of the palmette scroll are treated in similar fashion. The glaze on the body of the right-hand animal and on the right hind leg of the right-hand sphinx is badly worn.

A certain similarity may be found on a fragment from Athens,¹ which is certainly not Early Attic and is declared by Pernice to be Boeotian. There two friezes of figures are represented, sphinxes above and deer below. The figures show a very elementary use of the incised line and are distinctly more primitive in treatment than the figures on our fragment.

In spite of an apparent similarity, the styles of the two fragments differ considerably. That our fragments are distinctly Argive I see no reason to doubt. The drawing is precisely the same as that already seen on our best fragments, and the use of the incised lines shows a very advanced technical skill. The ornaments in the field are treated elaborately, but are relegated to a very minor position (except the palmette scroll).

The treatment of the wings on the sphinxes is extremely curious, and I have been unable to find any similar case;² it differs materially from the Athens fragment. A vase in the British Museum (A 1323) shows the same arrangement of hair,³ which is gathered in a heavy mass behind, with incised divisions (as in the case of the Tenean Apollo) and little locks over the forehead. The right-hand animal shows no new peculiarity.

So little of the palmette scroll is left that its reconstruction is doubtful. It is certain that four spirals and three palmettes were represented,⁴ but whether it ended at the bottom in a palmette similar to that on the top cannot be said. Judging by the palmette scroll on the amphora from Melos (Rayet and Coll. *Hist.* pl. ii.), it seems more probable that the scroll here was represented in similar fashion, with four spirals arranged in cross fashion and a palmette on four sides between each spiral.

35. Fragment. Greenish yellow clay, with black decoration. Incised lines freely used. Two horses' heads to right, evidently part of a biga. Good technique.

It is doubtful what the form of the whole vase was. The heads are drawn in too large a scale for a lekythos, and as no trace of a glaze can be found on the interior it cannot have belonged to a skyphos. The curve of the fragment seems best suited to a small jug, similar in shape to Fig. 86. The bridle of the horses seems to be the same as that on PLATE LIX. 21.

Plates.

Fragments of plates of the Oriental Argive style were very scarce, hardly more than half a dozen being found.

36 a and b. Two fragments of a plate, diameter uncertain. Reddish yellow clay, with black decoration on one side, burnt red on the other. The subject on both sides is the same, — a frieze of panthers, one crouching. The technique of the obverse is better than that of the reverse, the drawing being more careful.

We see from a that the centre was occupied by a star pattern, but what the outer border of the frieze was cannot be told.

¹ *Athen. Mitt.* XX. (1895), p. 121, pl. iii. 2.

³ Cf. also *Not. d. Scav.* 1895, p. 186, fig. 87.

² The pinax from Rhodes (*B. C. H.* XIX. [1895], p. 74, fig. 2) is similar save for the lack of dots.

⁴ Cf. *Jahrb.* II. (1887), p. 57, fig. 23.

Alabastro.

That the alabastron had its origin during this period and not during the Corinthian seems fairly evident. What caused its growth is a matter of doubt. It is possible that it may have developed from the lekythos, since the alabastron resembles strongly a lekythos minus a neck and handle, turned upside down. The fragments of this shape were very numerous, especially those with a scale pattern, but few were preserved whole.

Two types are represented.

1. Form *Berl. Cat.* v. 109, without foot.
2. Form Pottier, *Vases du Louvre*, pl. 41 E 423, with foot.

Type 1.

Three varieties of ornamentation are seen.

a. Simple linear decoration. Leaf rosette around neck and base, bands, checkered bands on body. Red lines applied freely. Cf. Pottier, *Vases*, pl. xxxix. E 32.

b. Same decoration except for addition of one animal frieze, sometimes more, around the base.¹ Incised lines are not used on the animals at all. The fragments were numerous, and one vase (height, 0.074 m.) was preserved almost complete.

c. Body of vase almost entirely covered with a scale pattern, large or small, as in Pottier, *Vases*, pl. xxxix. E 309, 319. A red dot is applied to alternate scales. This is the commonest type, half a dozen vases being found intact and numerous fragments.

The animal frieze occasionally occurs together with the scale pattern.

Type 2.

Only a few scattered fragments of this type were preserved. Half of one vase was preserved with three animal friezes, very roughly drawn, no incised lines being used.

Aryballoi.

Although the aryballos is a thoroughly characteristic shape of the Corinthian style, a number of them were found at the Heraeum which differed entirely from the Corinthian aryballi in point of technique and had a decoration purely linear in character. This would seem to warrant their belonging to the Argive period, towards the beginning of Class III. All show the use of applied color in an advanced stage, and this, together with the form, is more in favor of their connection with the later period of the Argive style than the earlier.

The earliest instance seems to be an aryballos of coarse red clay, with black glaze on the shoulder. The rest of the vase is entirely covered with a white wash, almost entirely worn away, with no traces of other decoration. No case of this peculiarity can be found in Corinthian vases; we have already seen it on Mycenaean vases. Cf. p. 93.

Fig. 92. Height, 0.07 m. Neck and handle restored. Black glaze over all, burnt red in places. On body broad band of dark red color applied, bounded above and below by two narrow bands inclosing row of dots applied in white.

This type seems fairly common. There are similar examples in the British Museum (A 1028, from Kameiros), Naples (*Rac. Cum.*), and three at Syracuse from Megara Hyblaea (Tombs 784, 941, 980).

Other vases showed either a single broad band of applied red, or a red band with a smaller white band on each side. One fragment was found of an aryballos which was divided by incised lines with gore-shaped divisions (like a child's leather ball), the gores being colored alternately red, yellow, and black.

Specimens precisely similar are in the British Museum (A 1027, 1031).

¹ Cf. the alabastro from Orchomenos. *B. C. H.* XIX. (1895), p. 192, figs. 16, 17.



FIG. 92.

NOTE ON THE USE OF APPLIED COLOR IN THE MYCENAEAN, GEOMETRIC, AND ARGIVE STYLES.

During the last three chapters, repeated instances of vases having various colors applied to their surfaces have been mentioned, and as this feature is such a prominent one on the Heraeum vases and so common during the succeeding vase classes, Corinthian, Rhodian, etc., it seems proper at this point to discuss it briefly.

For this technique no satisfactory term exists. Cecil Smith (*J. H. S.* VI. [1885], p. 184) uses the term "Dorian" and distinguishes between an "Oriental" style, i. e. the use of incised lines and applied purple or red color, and the "Dorian" style, or silhouette drawing with details in white, a feature common on much of the late seventh century polychrome work in Rhodes and Asia Minor. It is, however, perfectly certain that applied color was used by potters of the Mycenaean age, and even earlier, since the pre-Mycenaean ware found by Flinders Petrie in Egypt (*J. H. S.* X. [1890], pl. xiv. p. 271) shows the same polychrome decoration, so common on Egyptian wall-paintings, applied to the vases themselves. Crete (*Mon. Ant.* VI. pls. ix. and x.) has also produced a large amount of similar ware which belongs to the early part of the Mycenaean period. During the Mycenaean period in the Argolid its use would seem to have been fairly common, since at the Heraeum we find it on fragments of both the dull and lustrous styles, and Furtwängler and Loescheke's Class I. (lustrous finish) also shows that it was extensively employed. During the Geometric and Argive styles at the Heraeum we find it very frequently, though it does not seem to have been in general use until the rise of the Oriental influence in Greece. All these facts would seem to show that this technique did not owe its origin to the bright-colored fabrics of Asia Minor (especially Samos), though they were, very probably, instrumental in promoting its growth on Greek soil, and also that the term "Dorian" is hardly accurate or comprehensive enough, since the origin of the technique must be looked for long before the Dorian invasion, or, if that event be denied, before the end of the Mycenaean period.

As a regular sequence of this technique has not been found (so far as I know) outside of the Argolid, it may perhaps have been a peculiar feature of the pottery made in that locality; since, however, it is a purely accessory feature it can hardly stand by itself as a separate entity, and the fragments which show its use are not to be separated from the regular vase-classes to which they belong.

During the Mycenaean period at the Heraeum, only a few fragments of the dull finish, and of Class III. lustrous finish, show this technique. It is fairly common on fragments of the Geometric and Argive (Class II.) styles, while with Class III. of the Argive through the Corinthian style it seems to be an integral part of the decoration.

On PLATE LX. the most representative fragments only are given, following the chronological order of the preceding chapters.

MYCENAEAN.

Dull Finish.

Only one fragment (PLATE LI. 7, p. 13) showed the application of dark red color.

PLATE LX.

Lustrous Finish, Class III.

1. Fine dark red clay, exterior entirely covered with a brilliant dark brown glaze, on which is a spiral in white; careful technique; the fragment belongs to III. 1.

2. Coarser yellowish clay, similar technique. Two circles with a dotted border inside; or possibly the heads of a murex pattern.

3. Fine brick red clay, black glaze on exterior, dark brown on interior. Upper part of palmette pattern applied in yellow.

These were the only Mycenaean fragments possessing any interest. Several others were found showing traces of white or yellow paint.

GEOMETRIC.

The number of Geometric fragments that show this use of applied color was quite large, filling nearly a basket. All such fragments invariably belong to the earlier period of the style rather than the later; i. e. their decoration (apart from their polychrome feature) is purely Geometric or linear, and in no case of a later Geometric fragment representing animals or *genre* scenes did this technique occur. Outside of the Argolid this technique is seldom found; as far as I can discover, only a few scattered Dipylon vases in Athens show it at all.

4. Fragment of an amphora probably. Yellow clay, with a broad glazed band of dark red covering the rim on the interior, over which two thin white stripes are applied. On exterior, dark brown glaze. Design applied in white; on rim, zigzag; on body, series of zigzags in a panel bounded by vertical and horizontal lines. On base, rays.

5. Dark red clay, burnt gray on exterior. Dark red glaze on inside, dull black outside, with design in white, dotted rosette above, and zigzag between horizontal stripes. Several other fragments of this vase were found, also fragments representing half a dozen other vases of similar technique.

6. Red clay, black glaze on interior; reddish glaze on exterior and design in yellow, horizontal stripes and a border inclosing a "Running Dog" pattern. The color is applied thickly.

7. Red clay, with dark brown decoration. On upper border, a dotted lozenge chain applied in yellow.

8. Fragment of foot of large vase, shape uncertain. Red clay, with red glaze on exterior. Moulding on base. Broad meander pattern applied in yellow, bounded by broad stripes of yellow and narrower ones of red. Careful technique.

PLATE LXVI. 1. Dark gray clay, with dark brown glaze on exterior. Meander pattern applied in red, with yellow border. Above, broad stripe of red. Several other fragments of this vase were found. Another fragment had a similar meander in yellow, bordered by red and white stripes.

2. Fragment of a vase with wide opening. Yellow clay, with black glaze on exterior. Broad band of yellow, with red border lines. On the yellow band a simple meander in red, with splashes of yellow in the interstices. Fragments of the rim were found which showed identically the same decoration on the lip.

The bulk of the fragments belonged to the rims of large bowls, having a flat surface on the top, and covered with a black or dark brown glaze on which broad bands of red, yellow, or white were applied. On these in turn was a pattern, usually a meander in red or yellow.

Taking the Geometric fragments of the Heraeum as a whole, the use of applied color seems to have been occasional rather than usual, and in only a few cases (most of them have been given above) does it form an important part of the decoration.

ARGIVE.

The number of Argive fragments which show the use of applied color is innumerable. In the majority of the Argive vases already discussed the slender band of red or yellow

is extremely common, but is used mainly as an ornamental accessory. The vases where the only decoration consisted of applied color are not very numerous in proportion to the rest.

No fragments belonging to Class I. showed this technique. In Class II. the fragments were much more numerous; in Class III. the use of applied color is so universal as an accessory ornament that few attempts were made to employ it as the only decoration.

9. Fragment of skyphos. Reddish clay, with a brilliant brown glaze, burnt red on interior, on both sides. Yellow stripe on interior just below rim. Design in yellowish white; double panel inclosing double circles. Technique very good.

10. Fragment of skyphos. Dirty yellow clay, with dull black glaze on both sides. Double triangles in yellowish white laid on thinly, above a horizontal stripe. This motive is identical with that already seen on the necks of the oinochoai.

Two fragments of a skyphos exactly similar to those from Aegina (Pallat, *loc. cit.* p. 277, fig. 9) and Eleusis ('Εφην. 'Αρχ. 1898, pl. ii. 3, p. 115) were found.

11. Fragment of oinochoe. Bright yellow clay, with brown glaze exterior. Parallel bands inclosing zigzag in whitish yellow.

Three more fragments of this vase were found and about a dozen other fragments from similar vases, with identical decoration. Fragments of necks were more common, one almost entire, but showing the same motive of zigzags. Cf. neck of oinochoe on PLATE LIX. 8, which belongs here.

The following fragments belong to Class III. : —

12. Fragment of large skyphos. Dark reddish clay, with black glaze on exterior. Between two broad bands of red a palmette in incised lines. The motive resembles strongly those found on some of our bronze fragments.

13. Fragment of oinochoe or lekythos. Fine yellow clay, dull black glaze on exterior. Lotos palmette in whitish yellow, with incised lines. Below, four stripes, the outer white, the inner red.

14. Fragment of bowl. Yellow clay, with red brown decoration. On exterior, rays (red applied) and a horizontal gnilloche. On interior, meander pattern with fragmentary applications of yellow, and a wave pattern around the centre.

Besides the fragments already mentioned, several dozen were found which belong to rather large skyphoi, 10–15 cm. in height, of a dark red or yellow clay, the exterior only being covered with a dull dark red glaze. On the shoulder and rim is the only decoration, consisting invariably of two or three parallel stripes of applied red, bordered above and below by a white or yellow stripe.

A class of fragments similar in technique to the Attic black- and red-figured styles will be discussed in Chapter VII.

POLYCHROME VASES, OR DECORATION ON A WHITE GROUND.

Before leaving the subject of the use of applied color, a few fragments merit attention. These showed the so-called 'polychrome' technique, having a whitish yellow background on which the design is applied. These fragments were not very numerous, not more than a dozen being found.

PLATE LXV. 4. Sancer, one side broken. Diameter, 0.058 m.; height, 0.017 m. Dark reddish clay, exterior covered with a white wash, mostly worn off. Same on interior, with a red band on rim and a lead-colored band below; around central boss a rosette in red, with lead-colored lines in the loops.

This saucer belongs to the series already discussed on p. 125, and is perhaps the earliest Argive vase at the Heraeum which shows this 'polychrome' technique.

PLATE LX.

15. Fragment of plate. Yellow clay, with a black glaze on exterior, over which are parallel stripes of white inclosing a row of dots. On interior, over a whitish yellow wash, a palmette, alternate leaves black, with white dots. Incised lines. This fragment belongs to Class III., and is similar in point of decoration to **16**. **15** shows some similarity to Nankratis ware, but there is nothing to justify its being considered as belonging to that style.

16. Fragment of plate. Dark red clay, covered with a whitish yellow slip. On exterior frieze of animals, with tongue pattern on rim. On interior, frieze of geese in black, red (faded) applied to bodies, with zigzag band below. On rim, tongue pattern, red applied to each tongue.

CHAPTER V.

MISCELLANEOUS TYPES.

BEFORE proceeding to the discussion of the Corinthian style proper, it seems best to introduce a chapter on certain vases and fragments, which, though allied to the two great vase-classes just discussed, yet stand apart by themselves on account of certain peculiar features both of clay and design.

It is difficult to decide on a proper term for these vases. That they were imported into Argos is possible but improbable, seeing that foreign-made vases are extremely scarce at the Heraeum. Moreover, it is more difficult to find analogies for them outside of Argos than at the Heraeum itself, though even there such analogies are extremely rare. The most probable explanation is, that all of them are experiments in the making of certain types, which were not continued; this alone will account for the wide difference that exists between them and the other Heraeum vases, not to speak of foreign vase-classes.

The vases and fragments represented here fall, roughly speaking, in the eighth century, though a few may be dated a few years later than B. C. 700. Some are equally related to both the Argive and Geometric styles; others again resemble more nearly purely foreign styles like the 'Island' types, Melian, Rhodian, etc.

Fig. 93. Oinochoe; height, 0.19 m. Handle and parts of body restored. Brownish yellow clay, with darker slip, dark brown decoration.

On rim four parallel stripes; on neck "Running Dog" pattern, and below a frieze, four pairs of lions and snakes to right. On shoulder Geometric snake, with round balls and dotted rosettes in field. On body, two borders. "Running Dog" above, zigzag (continuous) below, with a dotted row above and below, and separated by usual parallel stripes. On base, rays, points downward. On all the decoration (except the parallel stripes, dotted rows, and rays) small round dots of white.



FIG. 93.

This oinochoe is by far the most peculiar vase that the Heraeum yielded, and is remarkable for its technical features as well as its decoration. The form seems to be a cross between the two Argive oinochoai already discussed (Figs. 56 and 57).

Technique. The clay resembles more closely that used in vases of the Geometric style than in the Argive. The addition of the white dots in such numbers is peculiar but not unique, as it was found on several other Heraeum fragments, and a few vases outside of the Argolid.¹ It is certain, however, from Mycenaean fragments, that it was a common feature in the Argolid from the earliest times.

Decoration. This oinochoe differs from all the other Argive types in having an animal frieze on the neck, while the body is covered with the ordinary Geometrical motives.

In spite of the Geometrical motives on the body of the vase, it may be safely asserted that our oinochoe does not belong to the Geometric style, since the peculiar white dots never occur, so far as I know, on purely Geometric vases, nor has the style of the lions any connection with the lions on Geometric vases.² A closer connection seems afforded by the Phaleron jugs, since there we find the same employment of white dots, as well as the use of the neck for the main frieze. But the presence of the Geometric snake on the shoulder is against any such connection, since, as far as I know, that motive never occurs on any jug of the Phaleron type, nor has the style of our oinochoe anything in common with them. The Gamedes oinochoe is clearly of a later date than ours, and cannot therefore serve as a criterion for any doubtful point.

That our vase is of native workmanship seems to me extremely probable. The presence of the white dots on a few foreign-made vases is offset by the presence of fragments from as many vases at the Heraeum, and the use of the neck in the Phaleron jugs for the principal frieze is not a common peculiarity. Moreover, the style of our vase is earlier, if anything, than that of the Phaleron jugs, and would seem rather to point to an Argive influence on that class of vases (as was already suggested) than vice-versa. We have seen already how common the use of applied color was in all vases manufactured in the Argolid from the Mycenaean times downwards, so that this feature cannot be considered as lacking parallels in that place.

The date of our oinochoe must fall during the period of Argive Class II. The snakes and the other Geometric motives make this probable. Moreover, there seems to be no reason for seeing any trace of Oriental influence here; the lions have nothing in common with the type of lion in Class III., and the lack of incised lines is in favor of an early date, probably about the middle of the eighth century.

The combination of the lion and snake in pairs is extremely curious; I have been unable to find any similar instance. That a lion was intended is evident, though the prancing monster is more like the creation of a nightmare than the noble monarch of the desert. The presence of the lions is interesting, as they are not represented fighting, but as a purely ornamental feature. This would seem to be one of the earliest instances of the animal frieze, and would show that if not commonly employed, it was at least known to the vase-painter before the spread of Oriental influence in Greece, and need not be considered as a purely Eastern innovation.

PLATE LX.

17 a and b. Two fragments from a large amphora. Coarse brick red clay, with a reddish yellow slip. Decoration varying from black to red. Around interior of rim, band of black glaze. White dots applied to all the decoration.

a. Lion in panel formed by two stripes inclosing dotted row, and part of a scroll. Traces of a rosette (?) above the lion's head.

¹ The following examples are known to me: Warrior Vase (*Myk. Vas.* p. 68, pls. xlii. and xliii., and Schliemann, *Tiryns*, pls. xiv., xv., xvii. b, xxi. a, b, xvii. e); Aristonophos Vase (*Mon. dell' Inst.* IX. pl. iv.); Gamedes oinochoe (Rayet and Collignon. *Hist.* p. 81, fig. 42); two Phaleron jugs (Bochlan, *Jahrb.* II. [1887], p. 45, figs. 3, 4 e, 4 f); plate in British Museum (A 1539; Campanari Col.). The body of the stag on this plate is filled in with white dots;

oinochoe in Zurich (*Mon. dell' Inst.* IX. pl. v. 2) (frieze of warriors, dots on shields); two vases from Falisco (*Mon. Ant.* IV. p. 267, fig. 127; p. 291, fig. 147). The list might doubtless be materially increased.

² Cf. Furtwängler, *Arch. Zeit.* 1885, p. 135. pl. viii. 2. For discussion of the lion in the art of this period, v. Bochlan, *l. c.* p. 35.

b. Scroll ending at each end in a trefoil. Base of handle preserved.

Fig. 94 shows the restoration of the design. The form is not absolutely certain, nor can the height be determined, though, judging from the size of the fragments, the vase must have measured about 30 cm. in height. It seems fairly certain, however, that no other decoration existed on the vase unless we suppose a similar design on the reverse and that the restoration here given is correct.

The technique is precisely similar to **Fig. 93**, and as the resemblance between the lions is so strong we may almost assume that both vases were painted by the same artist. The scrolls which bound the panels are interesting, and so far a similar case does not occur to me. There is a certain resemblance between the trefoils and the ivy leaf on Mycenaean vases (cf. *Myk. Vas.* XXI. 152; also *J. H. S.* XI. [1890], pl. xiv. 1), but whether the trefoils represent a development of the latter cannot be told.

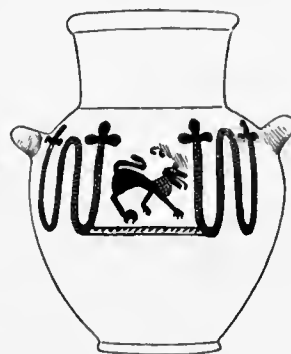


FIG. 94.

18. Fragment of a large vase, perhaps an amphora. Dark reddish clay, exterior covered with a dull dark brown glaze. Broad band of white with, a row of small dots on each side.

This fragment, though differing considerably from the two vases just considered, has been included here on account of the presence of the white dots. It presents this peculiarity that the broad band of white is not painted over the glaze, since no trace of glaze can be found under it. The clay is coarse and more akin in texture to vases of the Geometric style, but it cannot belong to that class, since it seems certain that the entire vase was covered with a glaze, a peculiarity entirely foreign to Geometric vases. We have already seen this peculiarity in the case of other Argive vases, and it is probable that we have here a fragment of a vase which belongs to the same class as those discussed on p. 158.

PLATE LXVII.

Seven fragments from the base of a bowl with tall base. From Old Temple Terrace (probably). Height cannot be determined. The fragments have been joined together to form the base (8). Height, 0.425 m.; diameter at base, 0.29 m.; diameter at top, 0.16 m. The original vase probably measured about 80 cm. in height.

Brick red clay, covered with a brownish yellow slip. Decoration uniformly black, with yellow paint added freely. Incised lines used on the figures of the animals around the base.

The form of the vase was probably a large deep bowl resting on a tall base, similar to a vase in Athens from Menidi (*Jahrb.* XIV. [1899], p. 108, fig. 10, or p. 126, fig. 29). Of the bowl only a small part is preserved in fragment 3; all the other fragments belong to the base.

Around the base are three friezes, and a narrow frieze at the bottom of the bowl.

Base. Lower frieze (4, 6, 7). Border, a guilloche of black and white strands (as in **PLATE LIX.** 5). Separated from this by three stripes, a frieze of animals. What these animals are cannot be determined. On 4 and 6 we have an animal crouching, with traces of what may have been a horn on its head, and the tail of another, which projects into the frieze above. The first animal is clearly crouching, and the body is covered with scales similar to *Athen. Mitt.* 1897, p. 309, fig. 31. Incised lines on the foot, and on tail.

Separated by three stripes is another frieze, 1, 2, 4, and 5, on which a combat is represented. Portions of eleven warriors are preserved, six to right, four to left, and a fallen warrior in the centre.

In the centre of the frieze (4), a dying warrior to right stretching his arm behind him. His leg is drawn in outline, and as no filling in with black or application of yellow is seen, it seems probable that carelessness on the artist's part was responsible for this deficiency. On his shield is a rosette, with yellow applied to five of the lobes; yellow is also applied to the headpiece of the helmet. On the left are two warriors advancing to right, both armed with helmet, shield, greaves, spears, and sword.¹ Yellow is applied to the headpieces of the helmets and to the greaves. The

¹ This is not absolutely certain, except in the case of the first figure, where the object is too thick to be a spear.

first warrior has a checkered border on his helmet, and a whirl pattern with a lozenge border on his shield; the warrior behind has a four-pointed star inclosed by a checkered border for his shield device. Facing them to left, parts of two warriors; nose, tip of helmet, shield, and one leg of the first warrior preserved, shield and one leg of the second. Yellow applied to greaves. The first warrior is armed with a spear or sword exactly like his opponent; on his shield, four-pointed star with checkered border. His companion has as a shield device a rosette elaborately drawn in black and white with a border of rays. Between the warriors, over the fallen man, a bird flying.

On fragment 2 we see the back of one warrior's helmet in black with the point of a spear, and the helmet (in outline) and eye of another warrior, likewise the point of a spear. From a comparison of 5 it seems probable that the spear to the left belongs to the right-hand warrior and the spear at the right to another not preserved. On the right of 1 again we see the trace of another helmet (checkered border) projecting into the pattern above.

On 5 we have three warriors; the one at the left resembles the foremost warrior on the left of 2, except that the border of his shield is a ray pattern, and the helmet has no border; he is armed with a spear. The warrior in the centre differs from the others in having a very tall helmet, with a single checkered border, which projects into the upper pattern as in 1; a faint line marks the outline of the head, evidently done in the preliminary drawing. This feature may be observed on almost all the figures. His shield seems to have had a four-leaf rosette for its device, the leaves being left plain and the entire shield covered with yellow; a fainter line encircles the shield inside the rim. He is armed with a spear (since the lower curved line behind him is clearly the continuation of his spear) and a sword. Between his legs a bird similar to the one on 4. Of the right-hand warrior only the head and part of a leg are preserved.

All the figures are bearded, and as the bulk of the face is covered by the helmet a triangular space is formed by the nose and eye. It may be noted that in no two cases is the device of the shields the same. Faint black lines are seen on several of the figures, which in most cases marks the preliminary drawing. On 4 the lines of the legs of four figures cross each other, due, of course, to careless drawing.

Separated from the frieze just described by a narrow border containing a double guilloche (drawn in outline and stippled in black) is the third frieze (1 and 3).

At the left of 1 are the body, hind leg and fore legs of a horse; to right, a broad band around the chest, with the reins along the back. Behind the horse the figure of a man from the waist downwards carrying a shield (in outline; device a rosette) and two spears. Around his waist is a belt with a row of dots. Yellow is used on his body and legs as well as on the body and legs of the horse, with the addition of faint black lines. Before the horse to left a woman, from the waist downward (in outline), holding a staff in her hand and clad in a chiton reaching almost to the ankles, stippled above in black, with three borders, a zigzag, meander, and dots. Behind her the leg and foot of another man, drawn in outline, but evidently wearing a boot. Between the horse's fore legs a water bird and above the reins a flying bird, as in the lower frieze. Incised lines are used to denote the reins. At the back of the horse is a projection to which the reins are fastened, from which goes a diagonal line to the top of the frieze representing a goad or whip.

The arrangement of 3 is somewhat problematical.¹ At the left is the upper part of a female figure (with long hair in ribbed locks) clad in a sort of bodice and a long skirt, stippled with black dots; she is stretching out her right arm. Behind her the figure of a bearded centaur, with a belt around his waist, looking to left, but his body turned to right; the line of the nates and the calf is visible at the lower part of the fragment. He is formed in the Archaic type, the entire figure of a man joined to the body and hind legs of a horse. The horse's body is seen to left and the woman seems to have her left arm around it. The waist of the centaur is pierced by an arrow, and the blood is marked by dark streaks. The attitude of his right hand is uncertain. The eyes of both figures are drawn as dotted circles. In field, flying bird.

Above is the last frieze which forms the base of the vessel proper. Some animal is represented to left, as three legs, body, and neck (ornamented with a scale pattern) are visible, but what the animal is cannot be told. Under its fore leg a row of dots and beneath the body a *swastika*.

¹ For this interpretation I am indebted to Mr. Edward Robinson, Director of the Museum of Fine Arts, Boston.

The chief interest of the vase lies in the two main friezes, but owing to the fragmentary condition of the vase their arrangement is extremely doubtful. It is perfectly plain that the subject of the lower frieze was the combat over some fallen warrior, and if we place 5 below 1, and transfer 2 to a position directly over 4, we shall obtain six warriors on the left and four (or perhaps only two, if 2 forms the head of the two warriors to the right of 4) on the right. How many warriors were represented, or whether the two sides of the base represented different scenes, we cannot say.

Less clear is the arrangement of the upper frieze. We have the figures of a horse, man, two women, and a centaur, and as it is certain that the subject of 3 had no connection with 1, both fragments were probably on opposite sides of the base. That the horse on 1 was harnessed to a chariot seems certain. Although we have only one horse, we know the single teams were common during the Archaic period.¹ As three reins are certainly represented, it is possible that a pair of horses was intended (which would be more appropriate to the period of the vase). If a wagon be supplied, then the object to which the reins are fastened must be the top of the pole. Although it is placed just over the flank, we find it set as far back on the shoulder of a black figure hydria (Gerhard, *Aus. Vas.* pl. 253). It cannot possibly be the ἄρτιξ of a chariot, as it is far too close to the body of the horse. That the diagonal line which begins at the end of the pole is a goad held in the driver's hand, a comparison of *Aus. Vas.* pl. 251 shows clearly. Not enough of the scene is preserved to warrant an identification.

With 3 the subject is plain. Deianeira and the centaur Nessos are represented. The round object at the back of the woman's head is probably the sword of Herakles; at least it is precisely similar to the sword on the lower frieze, and on a Chalcidian vase in the Louvre we find Herakles attacking the centaur with a sword (*Aus. Vas.* 117-118, 1). The attitude of the centaur is paralleled by another centaur on the Argive lekythos in Berlin (*Arch. Zeit.* 1883, pl. x.), who, pierced by an arrow, is flying to right while looking back over his shoulder. Deianeira is represented in a rather singular fashion; she seems to be clinging to the centaur's body with one hand while stretching out her right hand as if to call for assistance. Such a treatment of the scene is, as far as I know, unique.

This representation of Herakles's encounter with Nessos (if such it be) seems to be the earliest instance we have where Deianeira is represented (cf. Roscher's *Lex.* II. p. 2194).

Several points in the matter of detail must be noticed. The type of helmet is peculiar; for the simple helmet, that worn by the warrior on the Melian vase (Conze, *Melische Vasen*, pl. iii.), offers the nearest resemblance, but the tall helmet differs from any I have yet seen. The female figure on 3 wears her hair in a ribbed band behind, an extremely common form during the late Argive and Corinthian periods. The treatment of the eye varies in the two principal friezes; in the lower we have a pear-shaped space for the nose in white with the eye as a small dot; in the upper we have the usual type on Melian or Rhodian vases,² the dotted circle. The shields are the round form which is found in the Geometric style, but the addition of a device is characteristic of a later period.

In spite of its many peculiarities, I see no reason to doubt that the vase is of Argive fabrication and belongs to the early stage of Class III. of the Argive. Of purely Geometrical motives we find no trace, except the water bird on 1, but all the various motives, the *swastika*, guilloche, birds, etc., can be traced to earlier examples. The arrangement of the figures savors of a Mycenaean prototype, but the animal frieze shows a certain amount of Oriental influence. The application of color is probably, as we have seen, an Argive peculiarity. At the same time the general execution is primitive in its character, in spite of the advanced tendency of the composition, and shows little trace of the technical skill so characteristic of the later Argive vases.

It is of course possible that this may be a foreign product, imported into Argos, and if such were the case we should expect to find analogous vases in other places, which, with one exception, the Aristonothos vase,³ are not forthcoming. Melian, Rhodian, and Ionian vases which belong to the same period as our vase (perhaps a trifle later) seem to offer some slight resemblance, but it may be easily seen, if their styles be analyzed, that there is no connection between them.

The Aristonothos vase, though treating a different subject from ours, is the only vase which

¹ Cf. the Mycenaean grave stelae and Geometric Vases, Helbig, *Epos*², p. 139, fig. 33.

² Also on the Mycenaean 'Warrior' Vase.

³ *Mon. dell' Inst.* IX. pl. iv.

shows any similarity of style, and has therefore been assigned by Furtwängler to an Argive fabric.¹ It may be bold to use that vase as a criterion, but the view of a scholar like Furtwängler calls for careful attention, and if at Argos we find a vase similar to the Aristonothos vase, which, though exhibiting several new features, shows clearly the elements of the Argive style, there would seem to be good reason for assigning both to an Argive fabric.

We find that on the Aristonothos vase the type of figures, profiles, etc., is identical. The round shields are used with similar devices. Also on many of the figures small white dots are added such as we have seen on the vases just discussed, a strong point in favor of the Argive origin of that vase. We find a rosette precisely similar to that on the shield of our fallen warrior with black and white leaves. Except for the white dots, there is no application of extra color on the Aristonothos vase.

If what we have just said holds good, then our vase must fall at the beginning of the seventh century; later than that it cannot be.

PLATE LX.

19 a-h. Eight fragments from a large vase.² The shape is uncertain but it may have been some sort of a pyxis. The diameter was about 28 cm., greenish yellow clay with a dirty brownish yellow slip, decoration in black to dark brown. Incised lines used. Rim ends in a moulding. No trace of glaze on interior.

A pyxis seems the most probable shape, though the addition of a moulding to the rim is unusual.

On **a** we have a bearded man in a chariot to right drawn by a single horse, holding the reins in his left hand and a goad or spear in his right hand. He is clad in a single long garment with a zigzag pattern down the front. The body of the chariot is ornamented with a zigzag border, incised, and the eye of the man is denoted by a dotted circle. The chariot has a single wheel. Behind the man three vertical lines bordering the panel.

On **b** we have a large cauldron and a tripod with double legs, ending at the sides in a wheel on which a horse is perched. Over the tripod is a helmet. Between the cauldron and the tripod some object, perhaps a cleaver. **c** shows portions of two deer (eyes incised) to right, and **d** and **e** show the head and horns of a stag.

On the bottom of the vase (**e-h**) some design was represented, though not enough is left to conjecture what the actual design was. We have already seen this peculiarity on the base of another pyxis (**Fig. 69**).

It seems certain from the presence of the vertical lines on **a** that two scenes were represented, each in a panel; **a** and **b** belong to one side, **c**, **d**, and **e** to the other. **f** is probably the bottom of **b** (showing the continuation of the cauldron), while **g** and **h** belong to the other side, **g** being the lower part of **c**.

It is difficult to say what the principal scene represents. perhaps the most probable explanation is that a chariot race is represented (there is room for two more teams on the vase), and that the cauldron, tripod, and helmet are the prizes. If this is correct, we obtain the year 776 B. C. as a *terminus ante quem*, since before that date the representation of a contest for prizes never occurs on any Greek vase. Only one horse is attached to the chariot, which is similar to that found on Geometric vases with a curved *ἀντιξ* (cf. Helbig, *Epos*², p. 138, fig. 32); but as three reins are represented in the driver's hand, and the head and feet of the horse are missing, the usual number of two was probably represented. The cauldron is similar in shape to the large Dipylon vases, but differs from them as to the handles. The tripod has double legs (contrary to the ones found at Olympia,³ which have single legs), and seems to belong to a different type, as the legs run clear to the rim of the bowl. The peculiar form of the latter is due entirely to the desire to make room for a helmet (Corinthian type). The tripod has a characteristic quite common in the tripods from Olympia,⁴ as well as in other early bronze work, in having rings or, as here, wheels at the sides on

¹ *Berl. Philol. Wochens.* 1895, p. 202. "Nun haben die Ausgrabungen am Heraeon von Argos sowohl Scherben jener von mir der Fabrik der 'Aristonothos-Vase' zu gerechneten Art als auch Protokorinthische zu Tage gebracht." Our fragments are the 'Scherben' referred to.

² A fragment (**b**) of this vase has already been published by Laurent, *B. C. H.* 1901, p. 151, fig. 4.

³ Furtwängler, 'Die Bronzen,' *Olympia*, IV. pp. 72 ff.

⁴ *Ibid.*, pl. xxx. 574, 624; xxxiii. 607 and a.

which a horse is perched. What the object to the right of the cauldron represents is difficult to say;¹ from **f** it seems certain that a similar object was placed on the other side, but the size of the vase precludes our considering them as supports.

The animal frieze presents no peculiarity of any kind. The general style of the vase is decidedly that of the early period of the Oriental Argive class. **a** at first sight seems to show the same style of drawing in the case of the male figure as is generally found on Geometric vases; but the style of the horse as well as the presence of the incised lines show that by no possibility can the style be Geometric. It is possible that the artist may have drawn the male figure after some Geometric prototypes. All things considered, there seems no good reason why we should not have here a vase of distinctly Argive fabric.

PLATE LXVI.

Three fragments, **4 a-c**, from the same vase, found east of the Northwest Building. Brick red clay, with a bright yellow slip on exterior, chocolate-brown decoration with free use of incised lines. Form of vase uncertain.

That two friezes of animals were represented is certain. Traces of a lower frieze appear on **a**. On **a** and **b** we have some animal to right, on **b** the wing and body of a seated sphinx, and on **c** the fore part of another animal similar to **a**.

Of all the fragments yielded by the Heraeum these are the most unique and extraordinary. With the exception of an animal on an Early Attic vase (Conve, *B. C. II.* 1893, p. 25, pls. ii. and iii.), which bears an extremely superficial resemblance, I have been unable to find any vase or fragments which offer any analogy whatsoever. The fact that an animal frieze is represented as well as the presence of the sphinx shows that the fragments cannot be earlier than the third class of the Argive style, though, stylistically considered, these animals show none of the particular Argive features.

Certain technical points deserve notice; the drawing is extremely curious, especially at the juncture of the body and fore leg, where a crescent-shaped cut is incised to show the modeling of the leg. An oval space is left for the eye, which is denoted by a dot, and resembles that of a toad; the ears stand upright. The mouth, denoted by a slit, gives a savage expression to the head. We can only guess at the identity of the animals, but that they represent boars seems most probable. It would appear at first sight as if the feet of the animal on **a** were the paws of a carnivorous animal, but since the details of the body are so carefully incised, and as the paws of carnivora during this period are always denoted by incised lines, we must conclude that they are hoofs. The absence of horns shows clearly that they are not cattle, sheep, or goats, so that a boar is the only other animal possible.

Whether we can recognize here a foreign interpretation is impossible to say, but until some analogous example is found elsewhere, it seems most natural to regard it as an Argive product, perhaps a caricature; not a representative of any type, but merely an isolated case of some potter's fancy; in short, a 'freak.' Taking the technique, clay, and style into consideration, we may assign the fragments to the early part of the seventh century.

CHAPTER VI.

THE CORINTHIAN STYLE.

THE relations of the Argive and Corinthian styles to each other were discussed at length in the Introduction and in Chapter IV. In the present chapter only those vases and fragments which belong to the Corinthian style proper will be considered.

The Corinthian style² is so thoroughly well known and its origin so firmly established, that any discussion of the various questions which here arise in regard to it is out of

¹ Laurent (*loc. cit.*) identifies this as a sword, which seems doubtful.

² For general discussion of the style, v. Wilisch, *Alt-korinthische Thonindustrie*.

place. It was fairly well represented at the Heraeum; whole vases were scarce, but the fragments filled nearly half a dozen baskets. Such fragments as are preserved show nothing new; the forms of the vases differ in no way from the usual Corinthian types, and the scheme of decoration is identically the same.

Whether all the Corinthian fragments found at the Heraeum were manufactured at Argos is impossible to say. It has not been proved that the various vases of the style scattered over the Greek world were all made in Corinth,¹ and it is undoubtedly true that after the style became thoroughly known its manufacture was carried on in other places than Corinth, just as a great deal of the Mycenaean ware found in Greece must have been manufactured outside of the Argolid. As Corinth lies so near Argos (only thirty miles away), the importation of the style into the latter place would be perfectly possible. At all events, the internal evidence of the Corinthian fragments found at the Heraeum throws no light on the question.

Wilisch has divided the Corinthian style into two classes, the elder and the younger. With the exception of three fragments the elder class only is found at the Heraeum. This may serve to show that the Corinthian vases were manufactured in the Argolid and not imported, since after the Corinthian style very few fragments of any class of vases are found at the Heraeum, while if the reverse were the case, it would be an extremely curious fact to find the importation of a style suddenly ceasing, without any definite reason. There is no literary evidence to show that Argos ever enacted an embargo against the products of Corinth as she did in the case of Athens.

The forms found at the Heraeum are: —

Skyphos,	Aryballos,
Oinochoe,	Amphora,
Pyxis,	Askos,
Sugar Bowl,	Kylix,
Tripod Bowl,	Kothon,
Alabastron,	Plate.

Wilisch's statement (*op. cit.* p. 21) that the skyphos is the only form peculiar to both the Argive and Corinthian styles is certainly incorrect, since several fragments belonging to oinochoai of the type on p. 127 were found with Corinthian decoration,² and as we have seen, the Argive style included all the forms in the above list with the exception of the kylix and the tripod bowl. The decoration on all the fragments was distinctly poor, few showing really good technique. Most of them were found on the Second Temple Terrace in the pocket towards the southeast and under the retaining wall of the West Building (southwest corner). The number of bottoms (of skyphoi and oinochoai) far exceeded the fragments which belonged to the upper part of such vases. Though as a rule the clay of the Corinthian vases is rather more grayish in tone than in the Argive, it was impossible in most cases to decide whether such fragments belonged to Argive or Corinthian vases, the decoration in both styles (ray pattern) being identical. Some of these vases, however, showed just enough of the main zone to establish their identity as Corinthian.

¹ It is perfectly certain, through the presence of inscriptions, that vases of this style were manufactured in Sikyon (Kretschmer, *Griechische Vasenschriften*, p. 50; cf. also p. 185, No. 1). Hence Argos may well have made some herself.

² The British Museum possesses such an oinochoe

(A 1035) with three zones of figures. I noted in the Naples Museum an oinochoe of the Argive style, which had Corinthian decoration *over* the parallel bands. I was unable to examine the vase, but feel sure that the Corinthian decoration is modern. Cf. *J. H. S.* XI. (1890), p. 175.

In but a few cases could a vase be reconstructed from the fragments, and as the number of whole vases was so small no such classification as was followed in Chapter IV. could be used, nor does the class represented admit of any chronological subdivisions.

OLD CORINTHIAN STYLE.

Skyphos.

This form, being the commonest, will be treated first. Two types may be detected, those having a glaze on the interior and those without. The latter type is represented only by fragments in a very poor condition, and seems to have been confined to small vases. The clay is greenish or gray in tone, the foot projecting in a slight moulding, and the base ornamented with a ray pattern, the rays being very fine and close together. Above the rays, separated by a broad stripe on which narrow stripes of red or white color are applied, is the principal zone. As the type is so common, no examples are given here.

Fragments belonging to the former type, though not so numerous, were in better preservation as far as the figure decoration is concerned. They are generally of a red or yellow clay, the glaze black, though in some cases it has been burnt to a brilliant red, and in others is almost entirely obliterated, owing doubtless to the nature of the soil. The form of the vase is always that of **Fig. 64**, and the only variation is found in the proportion between the height and the diameter. The motives of decoration are the usual ones, zones of animals (lions, panthers, bulls, goats, deer, etc.), birds, fabulous monsters (sirens and sphinxes), and flower patterns (generally lotos). Red color is universally applied to the figures themselves and the bands which border the zone; red stripes are often applied to the interior, just below the rim. Incised lines are almost invariably used, but extremely carelessly, as no attempt has been made in many cases to prevent such lines running into the background of the zone. The bases are usually ornamented with rays, and the rim with a border of zigzags, water birds, or flowers, placed over the main zone; in some cases the border is omitted and the main zone extends clear to the rim. Ornaments in field are almost invariably used.

PLATE LXI.

1 a and b. Two fragments of a skyphos, of reddish clay, dark red glaze on interior. On main zone sphinx and siren to right (**a**) and sphinx to left (**b**). Two broad stripes of applied red separate the rim border (vertical zigzags). Red applied to the wings of the figures, and to two stripes below the rim on the interior.

2. Grayish clay, dark glaze on interior almost obliterated. Heads of sphinx and goose to left. Toothed and zigzag border above.

The sphinx is almost the commonest motive on our fragments. Dozens of others were found showing a similar design.

3. Light yellow clay, with brilliant black glaze on interior. Fore part of boar to right. Ray pattern below. Red applied on boar's neck.

This fragment belonged to a large skyphos, probably 15 cm. in height.

4. From a large skyphos, about 20 cm. in height. Grayish clay, glaze and decoration very much faded. Above main zone (two panthers back to back) border of palmette-lotos chain, only visible through the incised lines, as the decoration has almost entirely faded.

5. Yellowish clay, with dark brown glaze. Zigzag border on rim. On main zone, hind part of bull to right. Red applied to bull's belly.

6. Yellow clay, with faded black glaze. On main zone haunch of a goat and tail of another animal. Above palmette-lotos chain. Applied red band below rim on interior; red on the centres of the palmette and on goat's body. Cf. Wilisch, *op. cit.* pl. iii. 36.

7. Reddish clay, with bright red glaze. Panther, full front, and rear part of another animal. Above, zigzag border. The zone is burnt bright red, the rim border black.

As in the case of some of the Argive fragments, the difference in color between the two parts of the vase is strongly marked, and is no doubt intentional.

8. Bright yellow clay, with brilliant black glaze. Rooster to left. Red applied to the wattles, wings and rosettes in field.

9 a and b. Two fragments from rim of skyphos. Yellow clay, with dark brown glaze. On principal zone head of sphinx. Above, separated by a checkered border, zone of water birds to right broken by a panel containing a star. Red applied to wings of the bird.

These fragments show an upper zone which in its drawing is similar to that of the Oriental Argive, without any ornaments in field. The lower zone is in the typical Corinthian style.

10. Yellow clay, with brilliant dark brown glaze and bright red decoration. Main zone occupied by a very elaborate palmette-lotos chain in squares, with red color frequently applied. Below, zone of water birds. It is probable that a similar zone formed the upper border. For palmette, cf. Wilisch, *op. cit.* pl. iii. 35.

The fragments here given are paralleled by dozens of others of varying technical skill. Some of the fragments showed the figures of the animals stretched out to an abnormal length.

Oinochoai.

Two types were represented.

1. Tall-necked oinochoe (p. 127).
2. Corinthian type. Wilisch, *op. cit.* pl. ii. 18.

The first type was represented only by a few fragments in bad preservation. These were entirely covered with a black glaze, except for the animal zone on the body, and had on the shoulder an incised tongue pattern, red and yellow being applied to the alternate divisions. Of Type 2 fragments of only one vase were found which permitted a fairly satisfactory reconstruction, and several fragments of others. Curiously enough, no neck belonging to these oinochoai was found, nor is it certain whether some fragments¹ did not belong to another variety of oinochoe (Wilisch, *op. cit.* pl. ii. 16).

11 a-c. Three fragments of an oinochoe. Reddish clay. On base, rays, with three bands (middle band black, the others applied in red, dividing lines in white) separating them from the main zone. Panther to right (head full front) and goat to left. On b an owl, to right head full front; on c, deer feeding to left and feet of a sphinx. Above, two applied red bands inclosing toothed border. On shoulder, another zone, with lower part of a bird to right. Red is freely applied to all the figures.

A few other unimportant fragments of this vase were found.

12. Dark yellow clay, with decoration varying from black to red. Ram's head to right, dotted circles as ornaments in field. Good technique.

The other fragments were unimportant. They included an owl, panther, goat, etc.

Pyxides.

Very few fragments belonging to this form were found, but the covers were much more numerous, showing the same discrepancy of proportion already mentioned in the case of the Argive fragments (p. 136).

Two types were represented.

1. Pyxis with curving sides (*Berl. Cat.* v. 103).
2. Pyxis with straight sides (*Berl. Cat.* v. 101).

¹ Two fragments of yellow clay with an animal zone on the body and another on the shoulder were found, which, judging from the curve, may have belonged to this form.

The few fragments belonging to Type 1 followed the same scheme of decoration, ray pattern on the base and a sort of tongue pattern incised on the body, red and yellow color being applied to the alternate divisions. The interior was not glazed in every case.

2.

13. Reddish yellow clay, with bright red glaze on interior. On main zone, procession of women to right. Two other fragments were found, one showing the women facing to left so that two processions were represented. This fragment differs slightly from the usual form in that the base does not rest flat on the ground, but the sides are continued down lower than the base, so that the vase rests on a low foot.

Of the other fragments, three belonged to a pyxis of greenish gray clay, adorned with the usual animal zone (lion, bull, boar, and goat). Another showed a palmette-lotos chain as the main zone, very hastily done.

Covers.

A very large number of these, mostly in fragments, was found. Only one type could be distinguished, that with a flange fitting inside the rim of the pyxis (v. p. 139, fig. 73).

In only a few cases was the knob preserved, and in those it was conical or flat in shape. The commonest type (at least thirty covers were represented) had a ray pattern or leaf rosette in the centre, and a zone of animals of the usual type as a border on the rim. Almost equally common was the tongue pattern with red lobes. A few fragments showed a procession of warriors armed with round shields and spears.

14. Diameter, 0.106 m. Greenish clay. In centre leaf rosette, outside animal zone, four lions, two boars, stag, and duck. Decoration very much faded, with frequent traces of applied red color. This was the only cover preserved almost intact. Its wealth of decoration suggests the "Dodwell" vase.

15. Fragment of cover. Original diameter, 0.155 m. Very fine bright yellow clay, with black decoration, red color freely applied. In centre, ray pattern. Main zone bounded by two bands applied in red. Bird, male figure, sphinx, and two lions in an heraldic scheme.

The bearded figure on the left is dressed in a long chiton with a border down the front, and a long himation which falls in a fold at the right. The arms are not visible, but may perhaps be denoted by the incised lines starting from the shoulders. The figure presents this peculiarity, that while the himation is filled in with red, the skirt of the chiton is drawn in outline. This peculiarity, as far as I know, does not occur on vases of the Old Corinthian style.¹

The identity of the bird is doubtful; it resembles a crow more than any other bird. The sphinx shows no new features.

The group of the two lions is the most interesting. Though the heraldic scheme was no new feature in Greek art during the earlier periods (e. g. the Lion Gate at Mycenae, Geometric vases, etc.), it is not until the use of the Corinthian style that the scheme is generally used. The attitude of our lions is paralleled by two bronze reliefs, one from the Acropolis (Bather, *J. H. S.* XIII. [1892-93], p. 256, fig. 25) and the other in Athens (Furtwängler, *Ann. dell' Inst.* 1880, p. 135, tav. d'agg. H), and by a terra-cotta relief from the Heraeum. In the latter the lions are standing, not sitting. Analogous is the relief in Curtius (*Wappengebrauch und Wappenstil im Alterthum*, pl. i. 11). Except for Chalcidian vases (v. *Ann.* 1880, p. 135, note 2) I have been able to discover this motive on but one other example of Archaic vases (*B. C. H.* XIX. [1895], p. 76, fig. 4).

From the various analogies mentioned, it is certain that our fragment cannot be older than the bronze reliefs, i. e. the end of the seventh century. The fineness of the clay, style of drawing, and lack of ornaments in field is consistent with this view, and shows that the fragment, if not belonging to the New Corinthian style, belongs at least to the transitional period between the Old and the New Corinthian styles.

¹ Cf. Wilisch, *op. cit.* p. 99.

Sugar-Bowl Form.

Two types of these bowls were represented.

1. Without handles (Wilisch, *op. cit.* pl. i. 10).
2. With handles in plastic form (*Ibid.* pl. i. 13).

As no fragments were found with handles, it is uncertain whether a third type (Wilisch, *op. cit.* pl. i. 11 and 12) was represented.

All the fragments show a zone of figures; the interior is always unglazed. The base is invariably ornamented with a ray pattern.

1.

16 a and b. Two fragments from same bowl; original height about 12 cm. Greenish yellow clay, decoration very much faded. On base, rays; above, main zone, bounded on each side by two dotted rows. Procession of women to left; the right-hand figure holds a pomegranate in her hand. Dots as ornaments in field. Rim ends in a moulding.

On **b** the skirt of one woman's dress is drawn in a triangular outline. Judging by the extremely primitive character of the drawing, we have here one of the earliest examples of the style.

17. Fragment of bowl; original height about 15 cm. Yellow clay, with black decoration, red freely applied to the figures. On main zone, two sphinxes. Dotted bands above.

18. Fragment of base. Reddish brown clay, with black decoration burnt red. On base, rays; above, animal zone with lower part of a sphinx and leg of a panther showing.

It is not absolutely certain that this fragment belongs to a bowl; the curve would suit an oinochoe equally well.

None of the other fragments possessed any interest except one very small fragment on which traces of a row of warriors armed with shields, helmets, and spears could be seen.

2.

The presence of this type is established only by a dozen fragments representing, with one exception, a plastic female head.

19. Fragment of bowl. Plastic female head; light yellowish brown clay, with brown decoration. Red bands applied to the surface of the vase. The hair is arranged on either side of the head in three strands.

Examples of this type are fairly numerous. Cf. Furtwängler, *Sammlung Sabouloff*, pl. xlvii. 1; Wilisch, *op. cit.* p. 22, note 82.

- 20.** Plastic head of a sheep: Similar technique to **19**.

Tripod Bowls. (Form, *Berl. Cat.* v. 198.)

Though this form can hardly be called a very characteristic one of the Corinthian style, it is by no means rare. Wilisch ignores it entirely. The number of fragments of this type found at the Heraeum was not very numerous; of these the majority were legs, with fragments of the bowl itself still attached. Whether these bowls possessed covers originally is impossible to say; a bowl in Berlin (No. 1153) has none, nor were any covers which clearly belonged to these bowls found at the Heraeum.

Except for difference in the proportion of the depth of the bowl and the height of the legs, no separation into classes is possible, and all the fragments follow one type.

21. Fragment of bowl. Height, 0.05 m.; original diameter, 0.127 m. Yellow clay. The rim is ribbed on its outer and upper sides. Interior covered with a dark brown glaze, extending over the rim, with two concentric circles uncolored, with a narrow stripe of red applied between them.

On exterior, zone of animals, very much faded, on body, and a single animal (lion) on each leg. Another fragment of a leg was found.

The other fragments of the type all followed the same scheme of decoration, a zone of animals on the body and single figures (panthers, lions, sphinxes, birds, etc.) on the legs. One leg showed a palmette-lotos pattern in place of a figure.

Alabastra.

Two types may be distinguished.

1. With a slight moulding on the base, allowing the vase to stand upright (Wilisch, *op. cit.* ii. 15).
2. With round base (*Berl. Cat.* v. 109).

1.

Only a few scattered fragments of this type were found. The moulding is placed directly in the centre of the base, with a leaf rosette radiating from it, and the body of the vase ornamented with one or two zones of animals, in the usual style.

2.

Fragments of the second type were fairly numerous, especially the rims. Very few vases were preserved whole and no vase could be reconstructed from the fragments.

Fig. 95. Height, 0.072 m. Intact save for small fragment of rim. On rim, leaf rosette, with dots at the side. On neck, leaf rosette, alternate leaves applied in red. On body, three gryphons. On base, leaf rosette. Red color freely applied on their bodies. Rosettes as ornaments in field.

None of the other vases were in as good condition. They show the usual figures, lions, panthers, geese, etc., One fragment showed three gorgoneia around the base, while another had the lower part of a female figure.

Amphora.

The neck and handle of an amphora similar to Wilisch, *op. cit.* II. 21, was found, with traces of Corinthian decoration, very much faded.

Aryballoi. (Wilisch, *op. cit.* ii. 14.)

Only one type of aryballos could be detected. Curiously enough, in spite of the shape of the aryballos, which is well calculated to withstand the pressure of the earth in which it is buried, not a single specimen was recovered intact. Fragments were numerous, especially rims, but none of them showed any interesting features.¹ They were usually of a gray or greenish clay, though some fragments of red or yellow clay were found. The decoration is the usual type, a leaf rosette on the base with some figure or other on the body and a leaf rosette or tongue pattern on the rim. Half a dozen fragments showed a wheel pattern with curving spokes on the base. The technique in almost all cases was extremely indifferent.

Askos. (Wilisch, *op. cit.* ii. 22.)

Only one vase of this type was found, very nearly whole. Height, 0.13 m. Wheel



FIG. 95.

¹ The only fragment which possessed any remarkable decoration bore a Sikyonian vase-inscription: see below, *Inscriptions on Vases*, p. 185, No. 1.

pattern on base,¹ zone of female figures in procession to right (red applied to the dresses), and dotted bands on the shoulder. The execution was hasty.

Kylikes. (Wilisch, *op. cit.* ii. 19.)

Of this type, one vase was found represented by two fragments. The clay was yellow, the interior covered with a dark brown glaze, to which three stripes of red were applied. On the exterior a zone of figures was represented, of which only an owl could be recognized. The rim flared sharply outwards, in a fashion slightly more marked than the type given by Wilisch.

Plates.

Fragments of plates were not very numerous. The general type is that of p. 142 with a flat base, sides curving outwards and a moulding on the base. The profile of each plate was different, no two being found alike. Most of the fragments belonged to the sides, hardly more than half a dozen fragments from the centres of these plates being found. The principal decoration is confined to the interior, the exterior being usually ornamented with the system of parallel bands as in the Argive style.

22. (Fig. 96.) Fragment of plate. Original diameter, 19 cm. Brick red clay with black decoration. In rim, two holes.

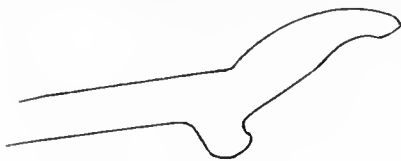


FIG. 96.

Exterior. On side, rays. The entire centre seems to have been occupied by a single figure, a sphinx and siren, of which only the tip of the wing is visible.

Interior. On side, zone of animals, sphinxes, and a siren or bird with very long tail. In centre, two sphinxes facing each other. Red applied freely to the bodies and wings of the figures.

This was the only fragment which showed animal decoration on both sides.

23. Fragment of plate. Original diameter, 32 cm. Light red clay, with sharp profile. On interior, palmette-lotos chain, red frequently applied. On exterior, bands. Two other fragments of the rim were found, one pierced by two holes. No trace of the central decoration was found, or could not be identified on any fragment. A bronze plate with similar ornamentation on the rim was also found.

NEW CORINTHIAN STYLE.

23 a and b. Two fragments from the same vase (*amphora à colonnette* or *stamnos*). Brownish clay, covered with a light brown slip, polished. Above, main zone, tongue pattern, with alternate red and yellow divisions applied.

On **a** warrior to right armed with helmet, greaves, shield, and two spears. Below the shield A† Behind him head of a horse. Red (faded to a paler tint) applied on the horse's neck and on the warrior's helmet, shield, and greaves.

b. Foot race. Two men, nude (heads wanting), running to right. Below, traces of a second zone, probably of animals. Under the handle the tip of a wing.

A third fragment was found, representing a goat to left, which may possibly have belonged to the lower zone.

The shape of the vase cannot be determined with any certainty, as not enough of the handle is preserved. The curve of the fragments would suit a *stamnos* as well as an *amphora*. It seems probable that the main zone represented a warrior's departure or combat on the obverse and an athletic scene on the reverse, with a zone of animals below. Sphinxes or sirens were perhaps placed below the handles as ornaments to separate the two scenes. The letters of the inscription

¹ Exactly similar to that on the Timonidas jug, *Arch. Zeit.* 1863, pl. clxxv. 5.



FIG. 97.

suggest $\Delta \approx$ [FAM] (Δ Fas) or $\Delta \approx$ [NBAM] (Δ ivéas). The technique of the fragments marks the latest and most advanced type of the Corinthian style.

The figure is paralleled by a Corinthian skyphos representing the combat between Ajax and Aeneas (*Ann. dell. Inst.* 1862, tav. d'agg. B), except that the warrior on our fragment is not fighting and that only one horse is represented. The warrior's squire was evidently mounted on the horse as in the skyphos.

FOREIGN TYPES.

EARLY ATTIC.

A few fragments were found which bear a close similarity to the Early Attic style; in fact, they show more of the elements of the Early Attic technique than of the Argive. Whether they were actually imported from Attica cannot be said.

PLATE LXII.

1 a and b. Two fragments of a large bowl, exact shape uncertain. Coarse reddish clay, with brown glaze on interior, brown decoration faded. On rim, a palmette chain, with a row of pot-hooks below.

The clay seems remarkably like that of the Early Attic vases, and the palmette chain is very similar to the palmettes on the Early Attic vases in Athens (*Jahrb.* II. [1887], pls. ii. and iii.).

2. Fragment from the handle of a large vase, probably an *amphora à colonnette*. Coarse red, dish clay, exterior covered with a whitish slip, decoration in dark red.

This fragment shows all the technical characteristics of Early Attic ware very plainly.

None of the other fragments were worth reproducing.

CYRENEAN.

Not more than fifty fragments or so of this ware were found, nor is it certain that they were imported from Cyrene. In the opinion of Professor Ernest Gardner, who examined them carefully, the quality of execution was almost too poor for genuine Cyrenean work. On this account he was disposed to regard them as an Argive imitation. That these fragments are distinctly Cyrenean in style is evident, but it is equally true that they are greatly inferior to the vases which represent the style elsewhere.

That Mr. Gardner's view of them is correct seems to me most probable. We have found all along that foreign importations were extremely scarce at the Heraeum,¹ and that the great mass of vases was made on the spot. There is nothing to forbid the presence at Argos of Cyrenean ware, which is the only ware in Greece during the latter part of the sixth century that seems to have contested the field with Athens. At the same time we know that all Attic vases were excluded from Argos during the latter part of the sixth century, and not enough of this Cyrenean ware is found to make up for the lack of black and red figure vases.

The kylix was the only form represented, and seemed to fall into two types.

1. Attic type (*Arch. Zeit.* 1881, pl. xii. 2a).

2. Rim and shoulder sharply separated (*ibid.* pl. xii. 4).

It was not possible in every case to identify the form from which the fragment came.

The clay corresponds in every respect with other Cyrenean vases, and the decoration follows the same scheme. The interior has a design in a circle, on an *exergue*. Red is frequently applied to various details. The exterior as a rule is given up to the usual sequence of Cyrenean motives, rays, tongue pattern, and pomegranate chain; a few fragments showed traces of a figure zone on the exterior.

¹ Except the Corinthian style, and that, we have seen, might possibly have been manufactured in the Argolid and not imported.

The execution is certainly inferior to the ordinary vases of the style. Not enough figures are preserved to judge accurately on this point, but in the ornamental motives there appears a certain lack of firmness and crispness in the drawing.

3. Fragment of kylix, Type 2. White slip, palmette and pomegranate border. Below, zigzag pattern and rays. Cf. *Arch. Zeit.* 1881, pl. x. 3; *Naukratis*, I. pl. ix.

4. Fragment of kylix. Glaze on exterior. Interior covered with a white slip. Eagle with snake in its beak. Decoration faded.

5 a and b. Two fragments of kylix, white slip on both sides. On exterior, pomegranate border; on interior, warrior to left with helmet and spear mounted on horseback, the neck of the horse showing to left. On b, part of hind leg of horse.

6. Fragment of kylix. On exterior, tongue pattern and rays. On interior, two feet of a woman (probably) on some object, perhaps a foot stove (cf. *B. C. H.* XVII. 1893, p. 236, fig. 4). On the left, part of a scroll.

The other fragments possessed little interest. A few showed portions of the central pictures, a bird, horn of a goat, legs of some animal, palmette, etc. The larger part of the fragments possessed only the usual Cyrenean motives on the exterior.

CHAPTER VII.

BLACK- AND RED-FIGURE STYLES.

FRAGMENTS of the Black- and Red-figure styles were represented at the Heraeum in extremely small quantities — not more than a basketful of the former and hardly more than fifty of the latter. Considering the extreme popularity of this ware during the latter part of the sixth century throughout the whole of the Greek world, the explanation of its absence presents one of the most interesting problems afforded by the Heraeum. That the fragments of these two styles found at the Heraeum are of Attic manufacture there can be no question. We have seen already that vases of foreign workmanship were extremely scarce at the Heraeum, but no certain explanation of this deficiency was to be found; in the case of the Attic vases, however, the explanation of their absence at Argos is perfectly satisfactory and agrees with the historical evidence at our command.

When, after the reforms of Kleisthenes, the rise in power of the Athenians had driven back her envious neighbors, Thebes and Chalkis, the former turned to the Aeginetans for assistance, who gladly gave it on account of an ancient feud with the Athenians.¹ The origin of this feud was as follows: —

Once, in early times, the land of Epidauros suffered through a failure of the crops;² to bring relief, the Delphic oracle ordered the Epidaurians to erect statues of Damia and Auxesia,³ not in bronze or stone, but of cultivated olivewood. For this material they applied to Athens, ostensibly because there existed no olive-trees in Greece outside of Attica, and the request was granted by the Athenians on condition that an annual tribute to Athena Polias and Erechtheus should be paid. This condition was scrupulously carried out so long as the Epidaurians retained possession of the holy statues. But Aegina, a colony of Epidaurios, grown overbearing through her rapidly increasing sea-power, asserted her independence, and during the course of an incursion into Epidauros carried away the statues and set them up at Oia, twenty stadia from the capital, where a cult to the two goddesses was inaugurated. The Epidaurians then refused to pay their annual tribute

¹ Herodot. V. 81 ff.

² Paus. II. 30, 4; cf. Roscher's *Lex.* I. p. 738.

³ *Ibid.* V. 82 ff.

to Athens, and the latter endeavored to obtain the statues from Aegina, but, failing to persuade the Aeginetans to give them up, sent an expedition consisting of one trireme (according to the Athenian tradition) or (according to the Aeginetan tradition, which is more probable) of a whole fleet. While the Athenians were unsuccessfully endeavoring to remove the statues, they were attacked and completely destroyed, with the exception of one man, by the Argives, whom the Aeginetans had called to their aid. This survivor, on his return to Athens, was attacked by the wives of his slain comrades and stabbed to death by their brooches. The use of the brooch was then forbidden in Athens, and hence the introduction of the Ionic chiton came about. The Argives and the Aeginetans made it a custom that women should dedicate brooches in preference to other offerings in the temples of their goddesses and also passed a law “Ἀττικὸν δὲ μήτε τι ἄλλο προσφέρειν πρὸς τὸ ἱρὸν μήτε κέραμον, ἀλλ’ ἐκ χυτρίδων ἐπιχοριέων νόμον τὸ λοιπὸν αὐτόθι εἶναι πίνειν”¹ (“that nothing of Attic manufacture should be dedicated in the temples, not even vases, but that they [the Argives and the Aeginetans] should in future drink from vessels made from the clay of the country”).

In spite of the legendary character of this tale, there seems no valid reason for rejecting it. Herodotus does not mention the date, but Studniczka² has shown that the expedition referred to must have taken place between 570 and 550 B. C., since Athens could hardly have undertaken such an expedition before the increase of her naval power under Solon and Peisistratos; nor would the expedition be likely during Peisistratos’s third period of power (circa 540 B. C.), as his wife then was an Argive. Also the history of Argos shows that she was at war with Sparta from 585 to 570 B. C., and with Sikyon from 549 onwards.³

Now a survey of Attic vase painting shows that the black-figure style did not come to its full development earlier than 550 B. C., and the period before that date is represented by such potters as Nikosthenes and the ‘Lesser Masters’ group. The red-figure style was not introduced until some twenty years later, and its finest work falls in the period between the end of the sixth century and the Persian wars. An examination of the black- and red-figure fragments at the Heraeum reveals the following facts: that of the scanty number of black-figure fragments barely a dozen belong to the better period (i. e. after 550 B. C.), while of the red-figure fragments, which are earlier than the Persian wars, hardly more than half a dozen were found.⁴ Here at Argos, then, we have a period of seventy years, represented by hardly twenty fragments of the most popular styles throughout the Greek world. That the cause of this is the embargo passed by the Argives against Athenian products in the sixth century becomes a fact too plain to be doubted, and shows that the date assigned is the true one.

Thus Argos puts herself on record with perhaps the first recorded case of an absolutely prohibitory tariff or embargo. That the act was a case of pure spite and not due to any desire to protect ‘home industries’ is plain, since no increased activity on the part of the Argive potters is the result. The presence of the few fragments mentioned does not affect the truth of the statement, for if we consider the enormous amount of vases of these two styles exported from Athens, it may be seen that no tariff measure could be so completely effective as to prevent a single Attic vase from entering the Argolid, and as the absence of this ware at Argos must have some explanation, it would be difficult to find a neater one than the passage just quoted from Herodotus.

¹ Herod. V. 88. The same statement is found in Athenaeus, Deipn. XI. 502 c. This passage has been commented upon by me in the *Class. Rev.* 1898, p. 88.

² *Beiträge zur Geschichte der altgriechischen Tracht*, p. 4.

³ Curtius, *Griechische Geschichte*⁶, I. p. 368.

⁴ Mr. Stais informs me that very few fragments of either style were found by him at Aegina.

If, then, we have for seventy years an absolute lack of Attic ware at the Heraeum, the question arises, "What took its place?" since it is hardly conceivable that no vases should have been manufactured at the Heraeum. Three suggestions are possible:—

1. The early style (Argive) may have continued. This is unlikely, as it was contrary to Greek taste in the developed periods of art to use old-fashioned types.¹

2. Some other foreign type was imported to take the place of Attic vases. No such type was found.

3. Some local type must have been used. This is the most natural explanation, but it cannot be affirmed with certainty that this type has been found.

A large number of fragments of a certain type of vases (four basketsful) was found, which type, as far as I know, is peculiar to the Heraeum. These were of red or yellow clay, covered on both sides with a black glaze, the only decoration consisting of two parallel stripes of applied red on the exterior, just below the rim (most of the fragments belonged to skyphoi), varying in thickness, but never more than 2 mm. broad. So common was this type, and its characteristics so unvarying, that we soon came to the conclusion that a special Argive type was represented. Any chronological classification is impossible, but the following points of difference were observed. Half the number were of coarse clay, with a very dull glaze, while the other half consisted of fragments of a fine red clay, carefully cleaned, with a glaze of extreme brilliancy. At first sight it would appear that the latter were Attic, but a close inspection shows that the clay is not as fine or light as in Attic vases, nor the glaze as even, distinct irregularities being present in the surface of the clay, under the glaze, both to the sight and touch. In Attic vases of the best black- or red-figure periods, the clay is always carefully smoothed before applying the glaze, and such irregularities are not usual.

These seem to be the only fragments which answer the requirements of our third suggestion. The Attic influence is plain, through the fineness of the glaze, and it is probable that the Argive potters borrowed this feature from their Athenian contemporaries. At the same time the application of red stripes is distinctly an Argive feature, and follows a fashion instituted several centuries before.

No vases were found intact, nor could any be restored from the fragments. **Fig. 98** shows an example of this particular style (red clay, width, 0.05 m.; height, 0.052 m.).



FIG. 98.

BLACK-FIGURE STYLE.

Fragments of the following vases were found: kylix, skyphos, amphora, lekythos, and plate. No vase was recovered intact, nor could any be restored from the fragments, as in hardly any case were more than four or five fragments from the same vase preserved.

Kylikes.

Fragments of the kylix shape were most numerous. Two types were represented

1. With tall foot, deep bowl ('Lesser Masters' shape. *Berl. Cat.* vi. 171).
2. With short foot, shallow bowl (*Berl. Cat.* vi. 172).

Few of the bases were preserved, but it may be seen from the fragments of the rims that Type 1 was the more common. None of the bases found showed any central picture on the interior of the kylix.

¹ It may be urged in reply to this that Athens continued to use the archaic type of coins through the fifth century, but that was due to a special cause.

1.

PLATE LXII. 7. Fragment of rim. Band of glaze on rim. Panther's head full-front, and back of some other animal.

This would seem to be one of the earliest fragments of the style found at the Heraeum. The panther on the animal zone shows the Corintho-Attic influence.

8. Rim. Same technique. Rider to left clad in a white chiton; behind him a spear or a goad of another figure. Incised lines used on hair, eye, and arm.

This fragment is by all odds the finest bit of black-figure work we found.

9. Warrior, armed with shield, greaves, and corselet. Five white balls on the shield.

This addition of a shield device in white is extremely common in black-figure work. Half a dozen similar fragments were found.

10. Lower part of driver with long white chiton in chariot to right. Behind him rear part of horse to left, white dots on legs.

Other fragments showed figures of men or women in procession, animals, etc. White is always used to mark the flesh color for the female figure and red very frequently for the men. The glazed band is generally separated from the main zone by a slight projection.

2.

Main zone directly along the rim.

11. Head of man to right.

12. Head of horse to right. This fragment in point of drawing is among the best we found.

13. Female head to left; flesh white, incised lines along edge of hair. Red fillet in hair.

14. Satyr to right; ivy vine in field.

Satyrs were found on quite a number of fragments. The drawing in every case was extremely careless.

15. Eye with iris in white, and white circle; in field, ivy vine. To the right of the eye what appears to be a satyr stooping with one hand on the ground. Streak of white marking perhaps a wine skin which the satyr is carrying.

With ivy border along rim.

16. Head of sphinx (part of wing showing) to left, flesh white, red fillet in hair.

Fragments of this description were extremely numerous. Quite a number of fragments were found which showed only a palmette system around the exterior, ornamented at intervals by white or yellow dots.

Skyphoi. (Berl. Cat. vi. 190.)

Fragments belonging to this form were not very numerous.

17. Fragment of skyphos. Reddish yellow clay, with black glaze on interior. Herakles and the Nemean lion.

If the interpretation of the scene is correct this fragment is clearly later than 550 B. C., since the type of Herakles strangling the lion without the aid of any weapon is not introduced in vase-painting till after this date (Roscher's *Lex.* I. p. 2197). The form of this vase differs slightly from that of the Berlin type, as the rim is not so sharply defined.

It was very difficult in the case of the other fragments to tell whether they should be considered as belonging to this or the kylix form.

Tripod Bowl.

18. Leg with rim of bowl similar to PLATE LXI. 21. Slight moulding on rim, glazed. Two male heads facing each other and a third head on the left. This was the only fragment of a black-figure bowl of this description.

Amphora.

19. Foot and leg to left. The style of the drawing suggests a Panathenaic amphora.

Fragments of amphoras were extremely scarce. Some half a dozen belonged to the rims of large amphoras and showed the usual lotos chain on the flat surface of the rim. One fragment of the side showed the lower part of three seated figures. Several bases and a few fragments of amphora covers were found, the latter showing a ray pattern in the centre and an animal zone around it.

Lekythos.

20. Side of lekythos; horse and rider to right.

Fragments of lekythoi were quite common. Such as had any decoration showed a remarkable lack of finish. **20** is the best specimen. Horses, single, double, or in a quadriga, formed the usual subjects.

Plate.

21. Fragment of plate, exterior glazed. On interior, heads of Dionysos and satyr, red applied on the hair and beard of each. Above Dionysos's head, ivy leaves.

22. Same. Head of cock.

The exact form of these plates cannot be determined, as it is impossible to tell whether they were provided with a foot. No other fragments were found.

We also found a fragment of a phiale precisely similar to one in Syracuse (*Not. d. Scav.* 1893, p. 479) and a fragment of a patera. The latter had no decoration except a tongue pattern (red and black lobes) on the flat surface of the rim.

POLYCHROME WARE.

Only four fragments of this ware were found.

23. Fragment of kylix. Black glaze on exterior; interior covered with a white slip on which is the arm of a figure in black and the corner of a garment (?) in red. Below, what seems to be a spear.

24. Base of alabastron, white ground. Border of rays, points downward, and the feet of a figure in black.

Two other very small fragments were also found. These had a white ground on which was the haneh of some animal with red dots on the leg. One fragment showed a human hand over the animal's body. Judging by the style, the last two fragments belong to the early part of the black-figure period.

The following fragments are selected from a dozen similar ones. Their identification is difficult, but it seems most probable, owing to the presence of the applied stripe in red, that they belong to the class just mentioned p. 176), which may possibly have taken the place of Attic products at the Heraeum. The technique in all is the same; light red clay, covered on both sides with a black glaze, to which the decoration is applied in white and red. A few fragments from Naukratis in the British Museum show a similar use of white, but the motives are different, nor are the red stripes employed.

25. Fragment of kylix. On rim, red stripe; flower pattern in white laid sideways.

26. The same. Two bands of flower pattern were evidently represented. Below, two red stripes.

27 Central part of kylix. Lotos pattern in white.

RED-FIGURE STYLE.

It is difficult to make any selection of the red-figure fragments. Less types are represented than in the black-figure style, and, furthermore, such as we have are, with one

exception, of little importance. As far as can be told from the various bases and handles preserved, three shapes were represented, — kylix, amphora, and skyphos. Exactly six fragments of the first period of the severe style were found, of which five are here represented. Of a rhyton, representing the head of a satyr probably, the eye, one ear, and part of the beard were also found, but no reconstruction was possible.

SEVERE STYLE.

- 28. Fragment from rim of kylix. Palmette.
- 29. Fragment of kylix. Backs of two horses. On the flank of the first, a small wheel ornament, and a band on the shoulder.
- 30. Fragment of kylix. Female figure, draped, with arm extended. Perhaps an Athena.
- 31. Form uncertain. Leg of a warrior to right armed with shield, with a frieze border. Glaze badly worn; traces of preliminary drawing.

The fifth fragment of this period is the polychrome kylix (see below). The sixth fragment represented a palmette similar to 28.

LATER STYLE.

- 32. Fragment of amphora. Upper part of woman's head to left (maenad probably), with a saccos, holding a thyrsos; above, tongue pattern.
- 33. Fragment of kylix or skyphos. Boy holding torch to right.
- 34. Fragment of amphora. Man in mantle with staff, facing another figure (probably a woman) clad in chiton and himation.

The other fragments showed the upper part of a youth wrapped in a mantle, very poorly drawn; two hoofs of a horse clear of the ground, probably represented as galloping; parts of garments of several figures, and various bits of palmettes, tongue patterns, etc.

POLYCHROME WARE.

PLATE LXVIII. Two fragments¹ of a kylix (form, *Berl. Cat.* vi. 224). Exterior entirely covered with a black glaze, fairly brilliant. The original form seems to have been the squat-footed type with a thick base, characteristic of the smaller kylikes with no decoration on the exterior.

The entire interior is covered with a whitish yellow slip slightly reddish in places. The central picture, bounded by a plain circle, represents a group on an exergue, a nude satyr (upper part of head missing) leaning on some object, probably a rock. He has a horse's tail and long shaggy beard; his chest and abdomen down to the pubes are thickly covered with hair. Faint red lines are used for the muscles of the stomach and the knee cap. On **b** a foot projecting from a garment to right upon an exergue. In the field of **a**, inside the circle, E Λ (ἐγ[γραφειν]?).

The subject of the composition is not quite clear. We have a group of two figures, a satyr and another figure, which may be male or female; the circle is too small for a third figure. Three interpretations are possible, — Satyr and Dionysos, Marsyas and Athena (Roscher's *Lex.* II. p. 2446), Satyr and Maenad. The first is possible, but unlikely, as Dionysos is generally represented with an attendant satyr on each side. The second is extremely doubtful, for the object in the centre rather speaks against it, at least if we imagine such a scene conceived in the spirit of the Berlin lekythos (Baum. *Denk.* p. 1001, fig. 1209). The last interpretation is the most likely, though how the group was represented is impossible to say.

The loss of the larger part of the subject is irritating enough, but the mutilated inscription is still more perplexing. That ἐγγραφειν was written, and that the artist's name followed the verb seems most probable, but what the name was cannot be conjectured on such slight indications.

If, as is possible, the vase is by some well-known artist, more can be gained through the stylistic features. The class of polychrome vases known to us at present is not very large. Hartwig² enu-

¹ Another fragment with part of the handle was found which had no decoration except the white slip. ² *Meisterschalen*, p. 499, note 1.

merates twenty-five, and there are two in the Louvre;¹ the number is increased to twenty-eight by our vase. The attitude of the satyr on a polychrome kylix from Ruvo² with Ἀλκιβιάδης καλός is very similar to that of the satyr here, but our vase cannot be restored so as to resemble the former, since no room exists on our fragment for the satyr to hold anything in his hand, much less a kantharos. The style of the Ruvo kylix is certainly later than ours, which resembles more the Naukratis fragments in the British Museum.³ I cannot go so far as to assign these fragments to Euphronios, as they hardly seem to me good enough, but I think on the whole that they show his style more than that of any other artist and are certainly contemporaneous with his later period. We may conclude that the vase is painted in the Euphronian style (perhaps by one of his pupils), probably about 485–480 B. C.

Practically the history of the vase fragments found at the Heraeum ends here, for the number of vases of any kind of a later date than the Persian wars found on the site are so scarce as to have little value. A few scattered fragments of Megarean ware, Roman lamps and a Byzantine cup, are all that represent a period of six centuries.

It seems probable, then, that the embargo instituted by Argos against Attic vases was either never removed, or else that the Argive potters abandoned vase-making entirely. We know that for at least a century almost no vases of any kind were made in Greece outside of Athens; the Attic ware was undoubtedly cheaper and more popular than that made by local potters. At Argos fragments of a later date are so few that there seems no reason for supposing the embargo was removed, and it is hardly possible to suppose that the manufacture of the black glazed fragments mentioned above continued steadily on. For a time, perhaps, that ware may have been a satisfactory substitute, but it is hardly credible that the Argives should always have been contented with it. We must suppose, therefore, that somewhere about the beginning of the fifth century the activity of Argos as an industrial centre for vase-making ceased entirely, and there being no foreign importations to serve as a substitute, the custom of dedicating vases at the Heraeum fell into abeyance. It is also possible to suppose that this custom had declined in the rest of Greece, for with the exception of the Kabirion at Thebes, vases of a later date than the fifth century are not found on any temple sites. From that time onwards vases are only found in graves.

CHAPTER VIII.

VASES IN RELIEF AND LATER VASES.

ALTHOUGH the vases in relief represent two widely different periods, it has seemed best to include them under one chapter. Two different styles are represented, — the Red-ware vases and the so-called Megarean vases. The latter are practically the only vase fragments of any kind found at the Heraeum which are undoubtedly later than the fifth century.

RED WARE.

Almost all the fragments belonging to this style are given on PLATE LXIII. They

¹ *Monuments et Mémoires* (Fondation Eugène Piot), 1895, pls. v. and vi.

² *Ann. dell' Inst.* 1877, tav. d'agg. Q (No. 19 in Hartwig's list).

³ Hartwig, *op. cit.* pl. li.

⁴ The date, provenience, and use of this ware has always been a vexed problem, and only two facts may be regarded as certain — that it is Greek, not Etruscan, in

its origin, and is directly influenced by metal work (Loescheke, *Arch. Zeit.* 1881, p. 44). As there is little general resemblance of style in the case of all the fragments from various places, it is probable that each town had its local style, and that no one town was the manufacturer of all. None of the fragments of this ware found at the Heraeum or elsewhere can be older than the seventh century.

are not very numerous, and seem to play a minor part in the Argolid, since outside of the Heraeum very little ware of this nature was found at Mycenae¹ or Tiryns.²

Pottier has analyzed all the existing material up to 1886 (*B. C. H.* 1888, p. 491). Since that date the most important additions have been published by Dümmler (*Athen. Mitt.* 1896, p. 229, pl. vi.) and De Ridder (*B. C. H.* XXII. [1898], pp. 439 ff., pp. 497 ff., pls. iv.–vi. *bis*).

1. Fragment of base of a large pithos. Coarse reddish clay, measuring between 2 and 3 cm. in thickness. On the base, a zone of figures bounded above and below by a moulding on which a herring-bone pattern is incised.

On main zone, Herakles and the centaurs. In the centre, Herakles to right naked and bearded, holding a bow in his left hand, from which he is about to shoot an arrow at a centaur advancing towards him, whose hands, fore legs, and hind leg only are visible. Behind Herakles, another centaur to left armed with a tree branch, head and front of body wanting. A cutting extends along the top of the zone, making the lower part of the relief much slighter.

2. From base of another pithos. Clay and subject identical with **1**. Below the zone, four rows of herring-bones incised.

3. Fragment of pithos similar in clay and subject to **1**. At the right of the fragment the figure of Herakles is repeated. The attitude of the centaur is slightly different from **1**, as his left hand holds the branch of the tree instead of being extended towards Herakles.

If this fragment belongs to the same vase as **1**, which seems probable, it must have formed part of the belly of the vase at its lowest point where it joins the base. Thus it would seem that the original vase possessed certainly two zones of figures, on the base and belly, with perhaps a third on the rim, leaving the body undecorated.

Some interesting technical features present themselves. It may be seen from **3** that the subject was repeated, and consists in its simple form of a man and a centaur. As the figures were stamped from a mould, it seems most probable that the original mould was circular in form and contained only one group; the mould was revolved over the soft clay, encircling the whole circumference, and thus the design was repeated at regular intervals. The fact that no trace of any dividing line between the groups can be seen makes this explanation the only natural one. At the same time the potter might have retouched the groups after stamping and thus secured a little variety in his figures.³

That the three fragments are contemporaneous is evident. Both style and execution are more advanced, than in the fragment from Kameiros (Milehhoefner, *Anfänge der Kunst*, fig. 48), but there is absolutely no trace of any Oriental influence on our fragments. Also the centaurs are still treated in the older style — the entire figure of a man combined with the body and hind legs of a horse.⁴ Although it cannot be said exactly when the change to the later type took place, it is probable (the Assos reliefs notwithstanding) that the change occurred about the beginning of the sixth century. But it seems probable that Herakles is here represented, though the club and quiver are wanting; this would seem to show an early treatment of the myth.⁵ We have already seen archers on the Mycenaean silver vase, but the bow on that vessel does not curve up at the ends as here. The branch held by the centaurs is, as far as I know, unique in its form. We shall not be very far wrong if we assign these fragments to the first half of the seventh century.

4 a-d. Four fragments from a round box, probably of pyxis form. Height, 0.10 m.; diameter, 0.22 m.; thickness, 0.01 m. Fine, cleaned yellow clay, with brown glaze on interior, worn off in patches.

¹ *Myk. Vas.* p. 53.

² Schliemann, *Tiryns*, p. 63, fig. 8; p. 64, fig. 9.

³ This is certain, since the Louvre possesses a fragment identical with the figure of Persens on the Louvre pithos (De Ridder, *l. c.* p. 457, fig. 7), and shows that while a few minor differences can be detected, the same mould was used for both figures. De Ridder, I think, is wrong

in laying so much stress on these differences (p. 458), and denying that the same model was used for both. What differences exist are clearly due to retouching after stamping.

⁴ Roscher's *Lex.* II. p. 1076.

⁵ *Ibid.* I. p. 2193; II. p. 1046.

On rim, a round moulding decorated with a series of wavy vertical lines, incised. Below, two raised bands. Directly below the moulding the wavy lines end in a series of dull holes. Ornamentation of base precisely similar. On the figure zone itself, above and below, appear traces of a faint band, which were probably originally like those below the rim moulding. The figures of the zone are much worn, in some places almost obliterated. The subject, as far as it can be ascertained, represents a lion hunt by men on horseback and on foot.

a. Fragment of rim. At the left, horse and rider galloping to left. Rider holds reins in one hand and brandishes a spear behind him in the other. Below the horse, some animal, probably a dog. Behind the horse, a bearded man crouching to left, stretching his right hand towards the rider while grasping with his left the mane of a lion who is evidently sitting on his haunches. Below the lion's head is the head of another lion very faintly outlined. At the right of the fragment, a lion walking to right, whose head is grasped by the right hand of another bearded man, crouching on one knee, who holds a spear in his left with which he spears the lion. At the extreme right of the fragment, the outstretched hand of another figure.

b. The same. Two horses with riders galloping to left. The fore part of the left-hand horse and the rear part of the other are wanting. The riders hold whips in their left hands and the reins in their right.

c. The same. Lion's head to right and two crouching bearded figures to left. This group is the duplicate of that on the right of a.

d. Fragment of base. Feet of one lion and fore foot of a second to right.

These fragments are by far the finest of the vases in relief we found. As far as can be told from the fragments, we have one scene — two horsemen, crouching man, two lions, and two crouching men, repeated twice. Whether another figure was added is uncertain. At all events, if we assume that these seven figures formed the whole scene, there is room enough on the vase for three separate repetitions of them. This was undoubtedly done by the use of the circular mould (v. No. 3).

The repetition of the lion's head on a is curious. Either the artist endeavored to represent two lions (delineating the fainter one with a knife), or else, more probably, he failed to secure a good impression of the mould on the first trial and therefore repeated it.

The style of the fragment is distinctly Argive and the Oriental influence more marked than in the preceding. At the same time, judging by the lack of ornaments in field, the fragments would fall in the early part of the Oriental Argive style, about the middle of the seventh century. The execution of the figure is better than in 1-3, but it cannot be said with any certainty what the chronological difference is between them.

The following fragment is of a later date and would seem to belong to the Corinthian period.

5. Fragment of a large vase, perhaps a pithos. Coarse yellowish clay, covered with a brilliant yellow slip.

Between two borders (tongue pattern), zone of animals. On the left, the head of a sphinx and a panther or lion; both to right. In the centre of the fragment, a palmette. At the right, another panther (head full-front) and rear part of another sphinx (wing showing) both to right.

The whole scene is merely a grouping of those animals which the Oriental influence had made popular and which is especially characteristic of the Corinthian style. All the special features, head of panther full-front, sphinx, palmette as ornament in field, etc., are distinctly characteristic of that style. This fragment is the only one of this ware which shows a distinct foreign influence, and may not be due to a local school; we may assign it to the earlier part of the Corinthian period, i. e. towards the end of the seventh century.

6. Neck of vase. Diameter, 0.05 m.; height, 0.054 m. Brick red clay, with palmette-lotos chain stamped upon the neck.

This fragment also would seem to belong to the Corinthian period.

MEGAREAN WARE.

The presence of this ware at the Heraeum furnishes one of the many problems with which we have to deal. Fragments of these vases represented the only vases which fall

between the first half of the fifth century and the Roman times. We have already stated that the embargo against Athenian vases probably killed the vase industry at Argos, but why this particular ware, which is quite common in Greece, should be the sole representative of all the other styles peculiar to this period, South Russian, Lower Italian, Arretine, etc., is a question which finds no satisfactory solution.

This particular style is generally attributed to Megara,¹ and belongs to the third and second centuries. The only historical connection between Megara and Argos known to us is that the former joined the Achaean League in 243 B. C.,² and the latter some fifteen years later. This date suits our fragments well, and thus it would seem that as the two states were brought together in the end of the third century, importations of Megarean industries took place in Argos. Why Argos should suddenly have imported this ware is hard to say; at any rate, it was the only ware manufactured at this time by a city of Greece proper.

The amount of this ware filled about half a basket. No whole vases were found, and none could be reconstructed. All the fragments show the usual technique—a reddish clay, covered on both sides with a brown or red glaze (sometimes steely black) and adorned with figures in low relief, the execution on the whole being rather poor. The shallow cup without handles is the only form represented and the decoration follows the usual scheme. On the bottom a pattern of leaves,³ above a zone of figures and below the rim a border composed of a double wave pattern. Ornaments in field, rosettes, etc., are added freely to the figure zone. Some of the fragments showed no figure zone, but were entirely covered with a leaf pattern. What the subjects of the figure zones were cannot be told. Very few of the fragments possessed any interest.

PLATE LXII.

35. Horse and rider to right; below, leaf pattern with rosettes in the spaces between the points of the leaves.

36. Original diameter, 0.128 m.; height, about 0.065 m. Steely black glaze. On base, three concentric circles. Figures very much worn, one group repeated twice. Warrior to right with shield and helmet, stretching his right hand behind him, and a female figure (Victory). In field, a rosette and a tripod (?).

37. Bearded man to right with staff, holding out his right hand to a woman, who holds a vase in her right hand. In field, rosettes, circles, and bird. Below, leaf pattern.

The other fragments showed various figures, bulls' heads, vases (amphoras), etc., etc.

With these fragments the sequence of vases at the Heraeum practically closes, and it is difficult to say whether any pottery of a later date can be detected. I have noted before that a large mass of the rough undecorated pottery might as well be Roman as early work, but the evidence does not seem to be conclusive either way.

About twenty small bottles, usually known as 'Tear Jugs,' without decoration, were found. These were uniformly of a red or grayish clay and differ in no way from the well-known type. Judging from evidence of those found elsewhere, they seem to belong to the second century B. C.

LAMPS.

About twenty of these were found more or less intact, and a small number of fragments. Those belonging to the Greek period have a small spout with a large opening, the handle

¹ Furtwängler, *Samml. Sabouroff*, pls. lxxiii. and lxxiv.;
Beudorf, *Griechische und Sicilische Vasenbilder*, pls.
lviii.-lx.

² Holm, *History of Greece*, IV. p. 260.

³ *Samml. Sab.* pl. lxxiii.

standing clear of the vase as in a kylix. The Roman lamps are rather squat and heavy, with a small opening and an upright projection for a handle. Several of the lamps through the presence of a cross clearly belonged to the Christian period.

Greek lamps were found only in fragments. Two of the Roman lamps had figure decoration, the rest being ornamented with a large rosette, etc., in the centre.

38. Top of lamp. Diameter, 0.068 m.; length, 0.09 m. Dark red clay, with projection for handle. Youth with spear in his left hand holding bridle of a horse. Wave pattern on rim.

This relief is interesting, since it supports the view already propounded by Furtwängler, that the Doryphorus of Polycleitus was accompanied by a horse, on account of a relief found at Argos (*Athen. Mitt.* III. [1878], p. 287, pl. xiii.). Our lamp presents a striking similarity to the Argos relief, but is probably of a later date, as it cannot be earlier than the Roman period.

39. Lamp, spout broken. Height, 0.032 m.; diameter, 0.07 m.; length, 0.083 m. Red clay. Youth to left blowing double pipes, with some uncertain object in field. On rim, circles.



FIG. 99.

GLASS.

Fragments of glass vases were scarce, and only one vase could be restored. The fragments seem as a rule to represent low bottles of the ordinary type. All fragments were very much corroded, the silvery surface flaking off readily if touched. A few of the fragments showed a ribbed surface.

Fig. 99. Height, 0.145 m. Bottle of usual type. On neck, series of raised bands. At the back of the neck a small projection, which probably did not represent the base of a handle, as a handle does not belong to this type of bottle.

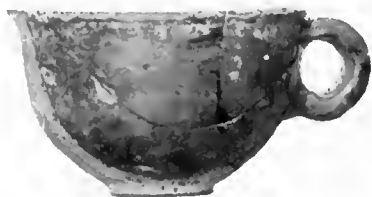


FIG. 100.

None of the fragments were worth reproducing; the majority of them were bases with a low boss in the centre after the fashion of a modern wine bottle.

BYZANTINE.

Fig. 100. Height, 0.05 m.; diameter, 0.09 m. One-handed cup of dark red clay. The entire surface of both exterior and interior has been covered with a shiny iridescent yellow glaze. Under the glaze the surface of the clay is speckled with yellow dots; the handle is divided into two parts.

This vase was the only specimen of Byzantine ware found.

INSCRIPTIONS ON VASES

BY THEODORE WOOLSEY HEERMANCE

I. PAINTED INSCRIPTIONS.

1. (**Fig. 101.**) Neck and handle of an aryballos of Corinthian style (p. 171). Diameter of mouth, 0.054 m. Clay yellow or light buff, with yellow slip. Decoration carefully painted in brown, with some red. The cuts (from drawings by Gilliéron) show respectively top, back, and side views of the fragment. Below the handle a bit of the body of the vase is preserved, and on it appears the wing



FIG. 101.

and tail of a bird, painted in light brown, with incised details. Above the tail is all that remains of the inscription, also in a light brown.

The drawing gives no adequate idea of the condition of the surface, and tends to make certain traces of letters appear clearer than they really are, while discolorations of the surface, which confuse the reading, are not indicated. All that is sure are *phi*, and, to the right of *phi*, a Sikyonian *e*-sign. What followed is as uncertain as what preceded, for the paint has largely disappeared, and, in places, the slip as well. Traces of at least three letters are visible, but they are too indistinct to justify any conjectures as to the original reading.

It is to be regretted that the inscription is not complete, for it is older than that on the Berlin *amphora à colonnette*, 1147, and Sikyonian inscriptions on vases are of interest if only for their rarity. Cf. Kretschmer, *Griech. Vasenschriften*, p. 51, and Πρακτικά, 1899, p. 61 (from Thermon).



FIG. 102.

2. (**Fig. 102.**) Two fragments of a *deinos*; combined length, 0.117 m. Clay light buff, with dull black glaze inside and out. Inscription painted in a dirty brown immediately below rim.

-----νδρός με ἀν[έθηκε]

The loop of the second letter preserved differs in size and shape from the loop of the third letter; hence the combination -δρ- is preferable to -ρρ-.

3. For Αἶ[φος] or Αἶ[νέας] on a fragment of late-Corinthian ware, see above, p. 173.

II. INCISED INSCRIPTIONS.

PLATE LXIX.¹

1. On flat rim of small bowl. Buff clay, poor brownish glaze.

τᾶς Ἡ[ρας ἡμί]

¹ The inscriptions are reproduced in the actual size of the originals.

2. Red clay, good black glaze. Inscription on inside of vase, close to lip.

[τᾱς] ὦρ[ας ἡμί]

The author of the inscription at first omitted ΕΡ in ΕΕΡΑΞ; but seeing his mistake before he scratched the next word, changed the Α to Ε and the Ξ to Ρ.

3. Fragment of black-figured ware of reddish clay. Below the inscription are the carelessly drawn head and shoulders of a male figure.

[τᾱς ὦρα]ς ἡμί

In front of the *sigma* the second *hasta* of the *alpha* is still visible.

4. Reddish clay, good glaze.

[τᾱς ὦρ]ας?

5. Buff clay, poor glaze.

[ὦρ]α?

For the nominative of the name of the divinity in dedications, cf. *Naukratis*, I. p. 62, No. 447; II. p. 67, Nos. 841–844.

6. Fragment of black-figured ware. Inscription on rim below lip.

[ὁ δεινά μ' ἀνέθη]κε τ[ᾱ ὦρα]

After *tau* part of the *alpha* is preserved.

7. Fragment of black glazed ware, with two red lines 0.02 m. below lip. Inscription immediately under lip, but inverted.

[ὁ δεινά με κα]τέδωκ[ε]?

Part of the *alpha* is preserved. With κατέδωκε compare κάθηκε, κάθηθηκε, κατέθηκε (*Naukratis*, I. p. 61, No. 185; II. p. 65, Nos. 788–792, 840).

8. On foot of kylix. Brown clay, lustrous black glaze.

[ὁ δεινά μ' ἐ]πέδωκε τῷ Μίκῳ

The form ἐπέδωκε is found also in a Boeotian incised inscription, Berlin, 1968. For the name Μίκος (Fick-Bechtel, *Griech. Personennamen*, p. 33) cf. G. Meyer, *Griech. Gram.* p. 363, note.

The genuineness of this inscription is not beyond suspicion.

9. Buff clay, with brownish black glaze inside and out, and dull red stripe below inscription.

ῥόρωνό[ς μ' ἀνέθηκε]

This is the only occurrence of *koppa* and the only retrograde inscription.

10. Brownish clay; the poor glaze has disappeared with the slip; on interior, parallel with lip, are purple stripes. The inscription encircled neck of vase, just below lip.

— — —]άσων — (or — — —]ασών[δας]) — [μ' ἀνέθηκε]

From one to three letters are missing at the beginning of the name.

11. Fragment of black-figured ware.

Ἀνδρέ[ας μ' ἀνέθηκε]

12. Brown glaze. Inscription just below rim. If it is part of a proper name, there are several possibilities, as: Ἀντάν[ωρ], Ἀνταν[δρος], [ΙΙ]αντάν[ωρ], [ΙΙ]άνταν[δρος], [ΙΙ]αντάν[εμος].

13. Low bowl, which resembles in shape Furtwängler, *Berl. Cat.* vi. 215, restored

from several fragments. One horizontal and one vertical handle. Diameter of top, 0.096 m. Black glaze inside and out. The inscription, which is complete, encircles the top of the vase, and is divided into two parts by the handles.

Though every character is perfectly clear, no satisfactory interpretation of the inscription is here offered. A close parallel in letter-forms is afforded by an incised inscription on a fragment of black glazed ware from Mycenae (*I. G. A.* 29). In both this and in the inscription from the Heraeum *λέποος* corresponds exactly, letter for letter, even to the small *o*-signs and the narrow four-barred *sigma*. Yet to change *τρν* of the Heraeum inscription to *τô* is entirely too violent, and no other explanation suggested has more in its favor.

14. Brown clay, with dull black glaze. Silenus head in relief on top of vertical handle to left of inscription, which is set in a frame of incised lines.

ερ ---

Can this be the same as No. 13? The letters appear to be later.

Nos. 15–20 are incised on the outside of their respective vases; Nos. 21–23 on the inside; and Nos. 24–29 on the bottom.

The characters of No. 16 are similar to those of No. 2.

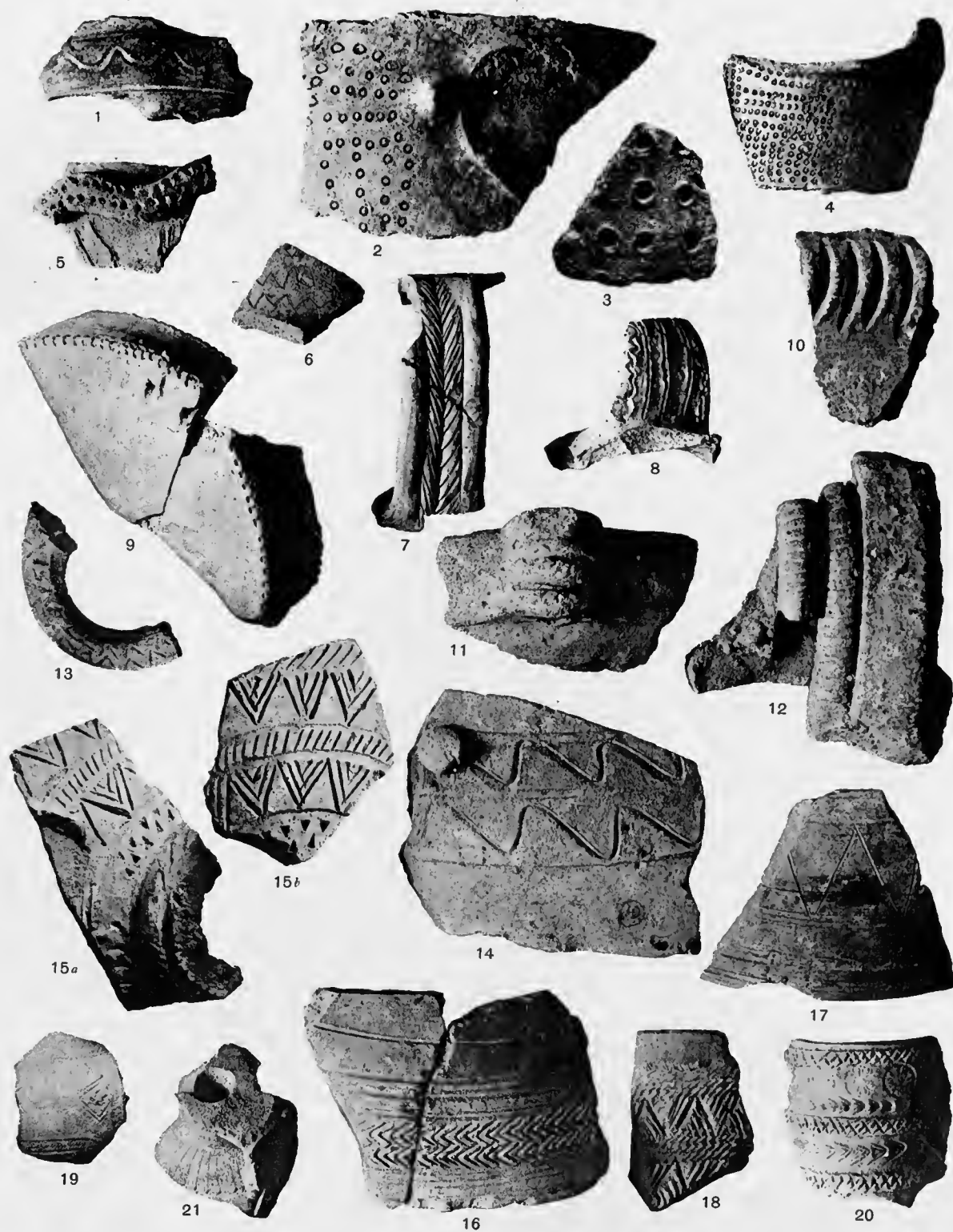
No. 22 is on the reverse of No. 16.

No. 26 shows the Corinthian form of *beta*.

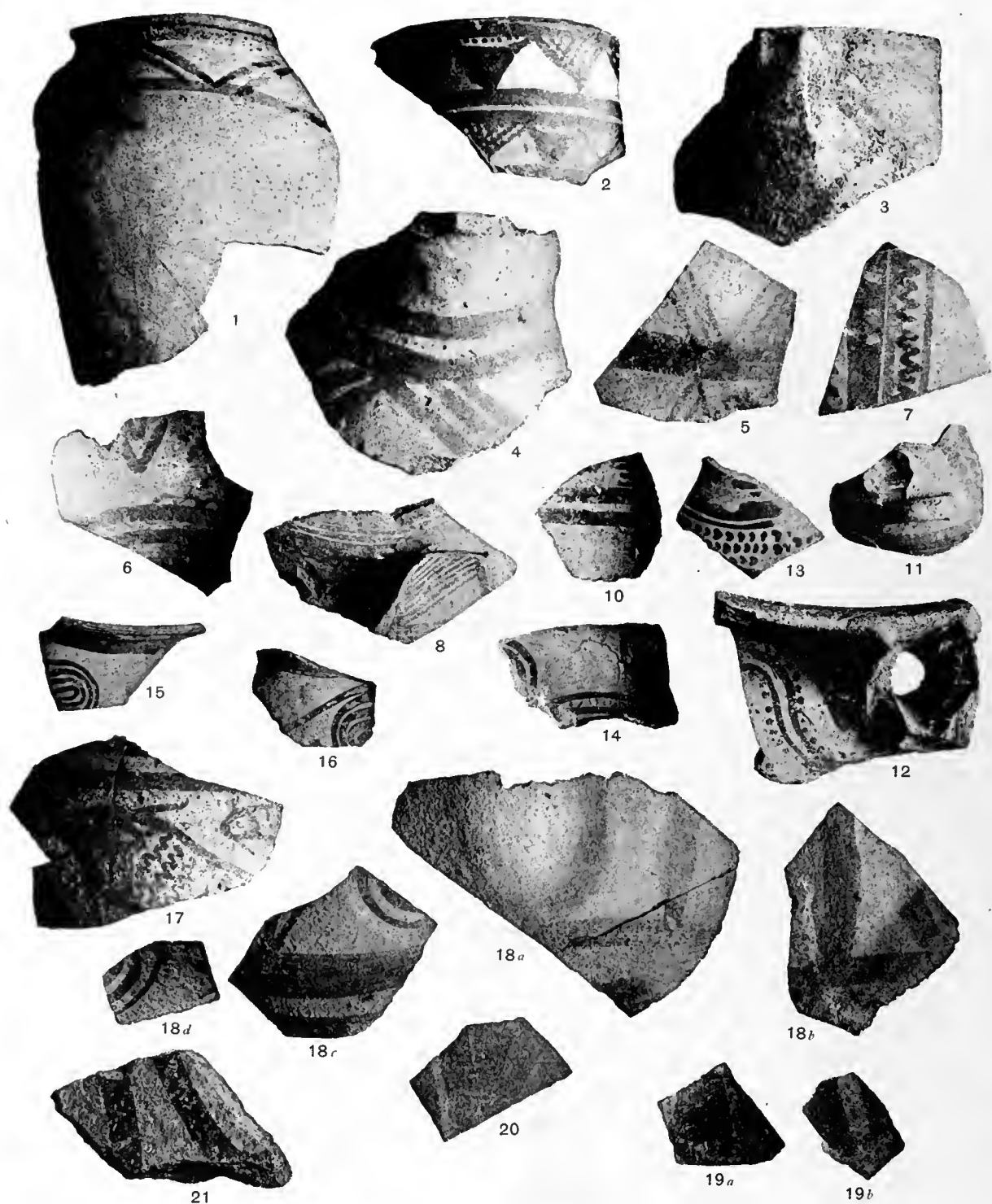
30. On bottom of small unglazed vase of dark gray clay. Inscription pressed into the moist clay before firing.

Ἡρακλεῖ
--- ον ---

This inscription is shown by its letter-forms to be some centuries later than Nos. 1–29.



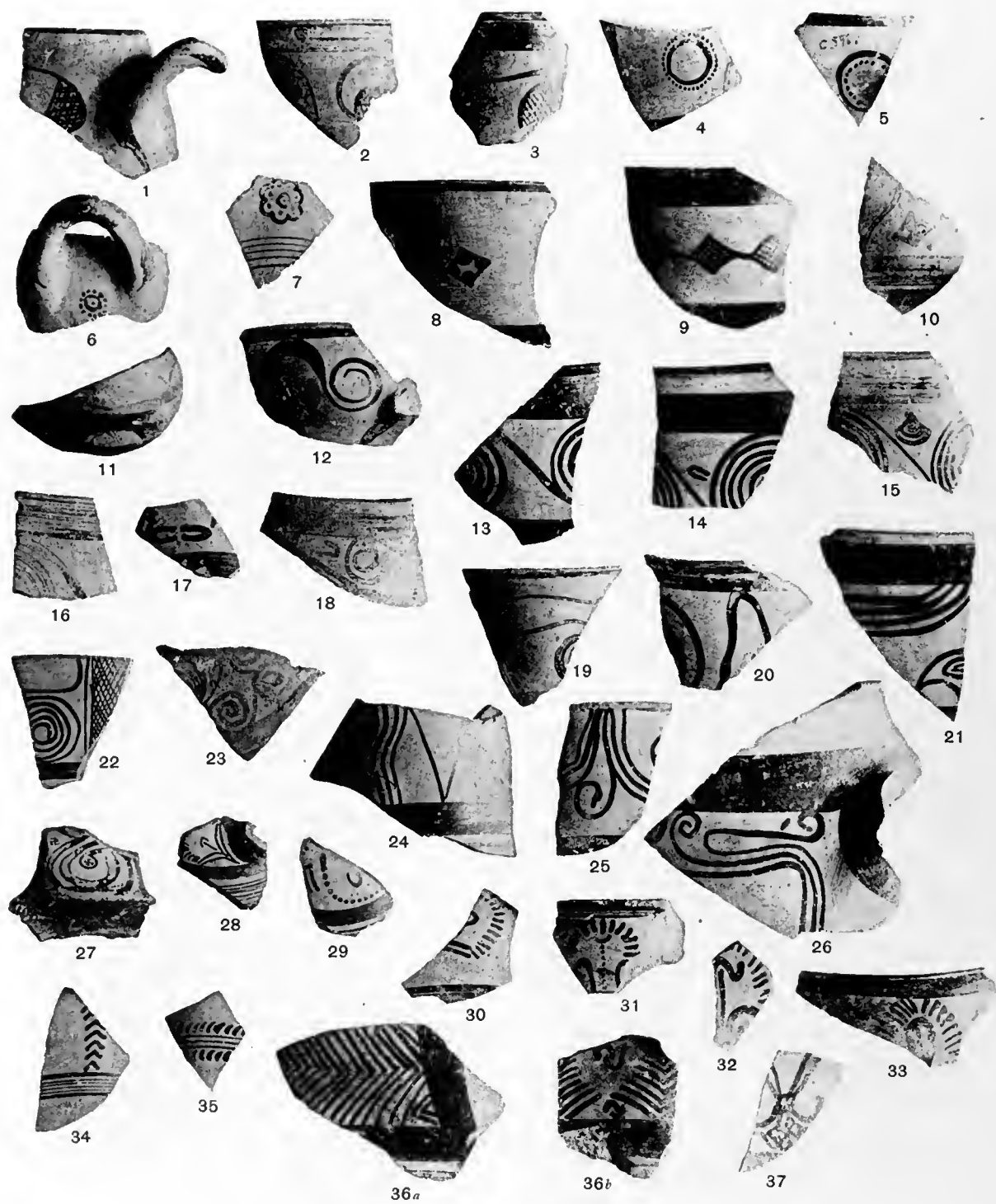
VASE FRAGMENTS.—PRIMITIVE VASES



VASE FRAGMENTS.—MYCENAEAN STYLE: DULL FINISH AND CLASS II, 1 LUSTROUS FINISH



VASE FRAGMENTS.—MYCENAEAN STYLE: CLASSES II, 2 AND III, 1.



VASE FRAGMENTS.—MYCENAEAN STYLE: CLASS III, 2.



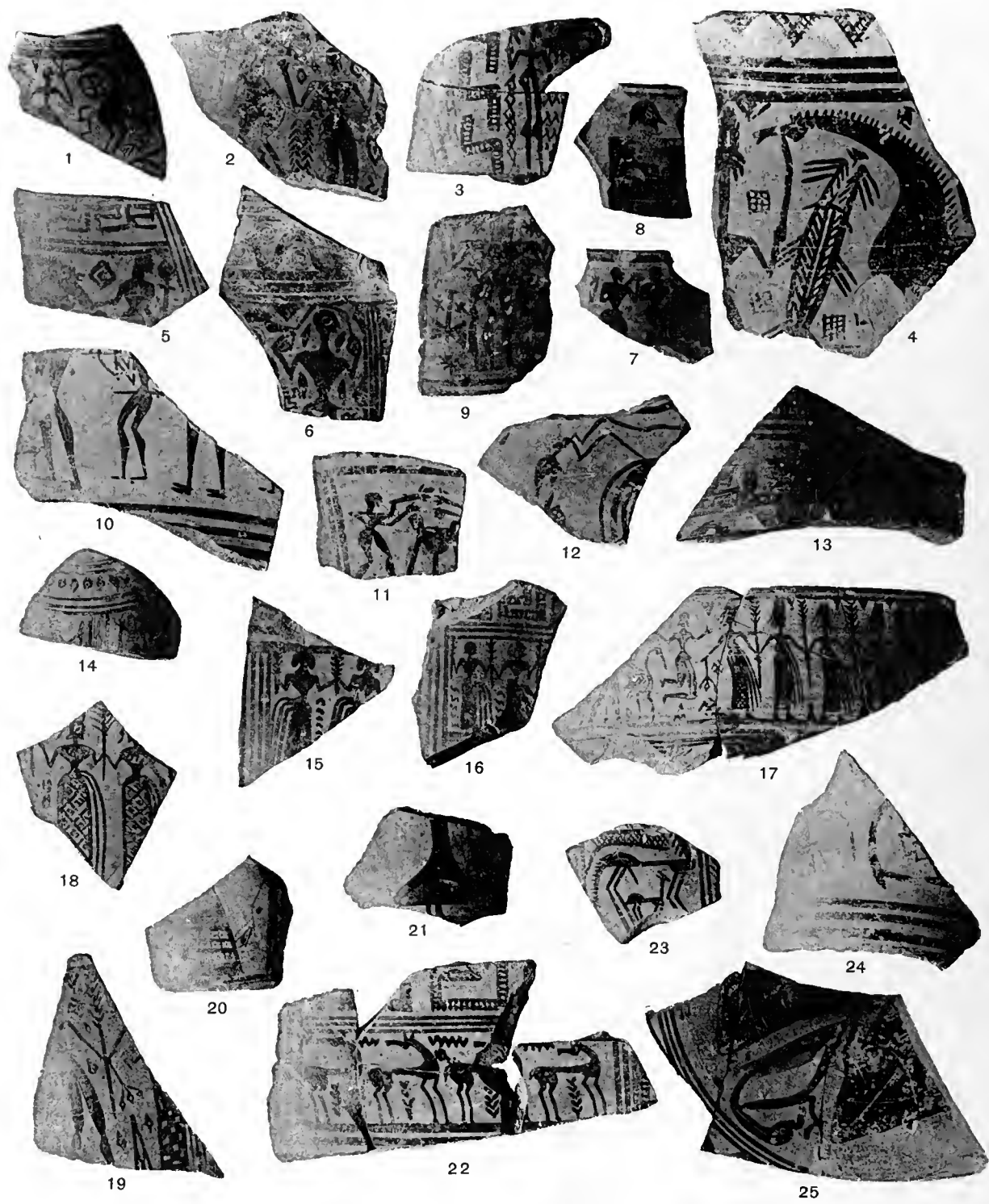
VASE FRAGMENTS.—MYCENAEAN STYLE: CLASS III, 2.



VASE FRAGMENTS.—MYCENAEAN STYLE: CLASSES III, 2 AND IV



VASE FRAGMENTS.—GEOMETRIC STYLE: LINEAR MOTIVES, HORSES, BIRDS, ETC.



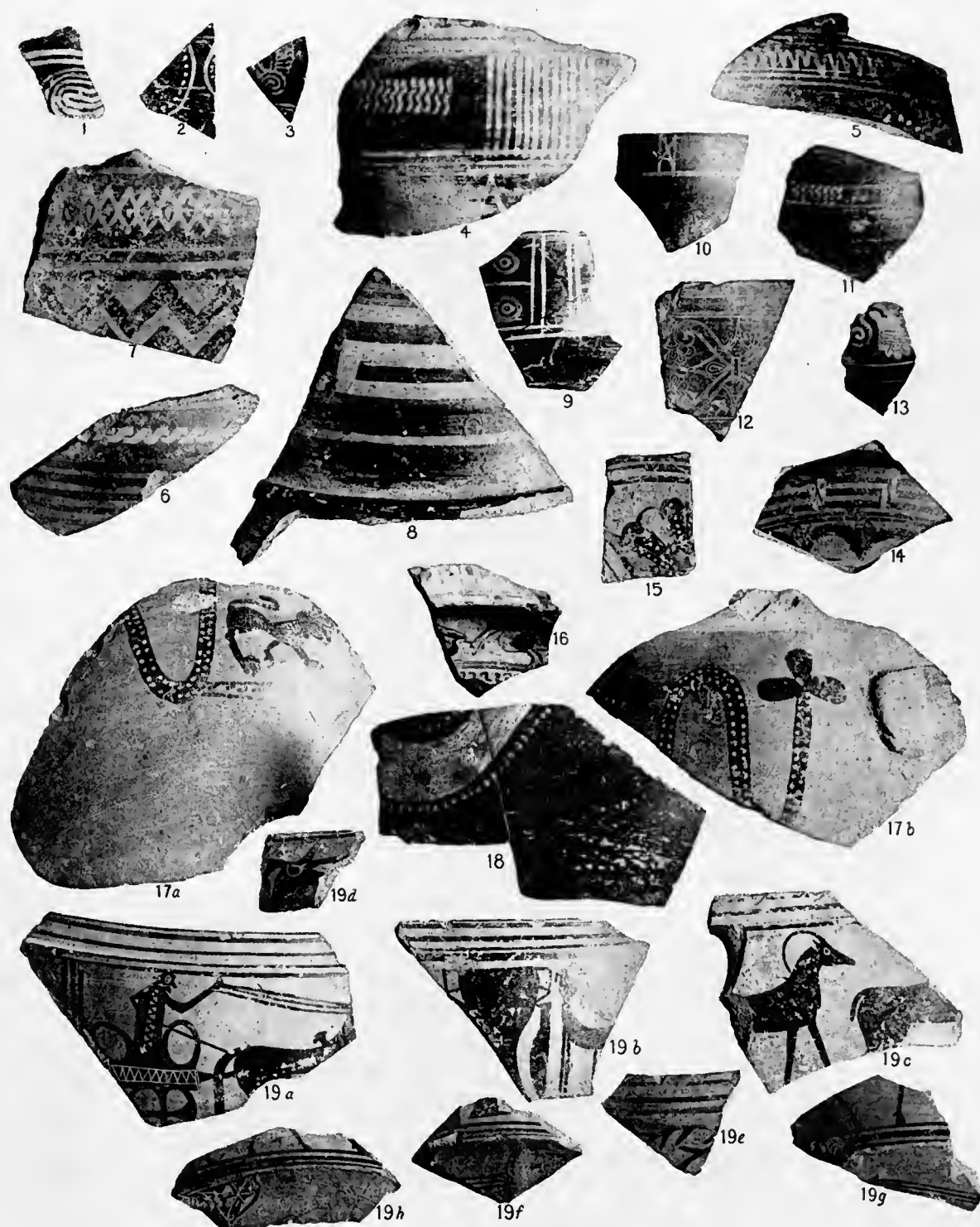
VASE FRAGMENTS.—GEOMETRIC STYLE: HUMAN AND ANIMAL FIGURES.



VASE FRAGMENTS.—GEOMETRIC STYLE: DIPYLON AND AEGINETAN.



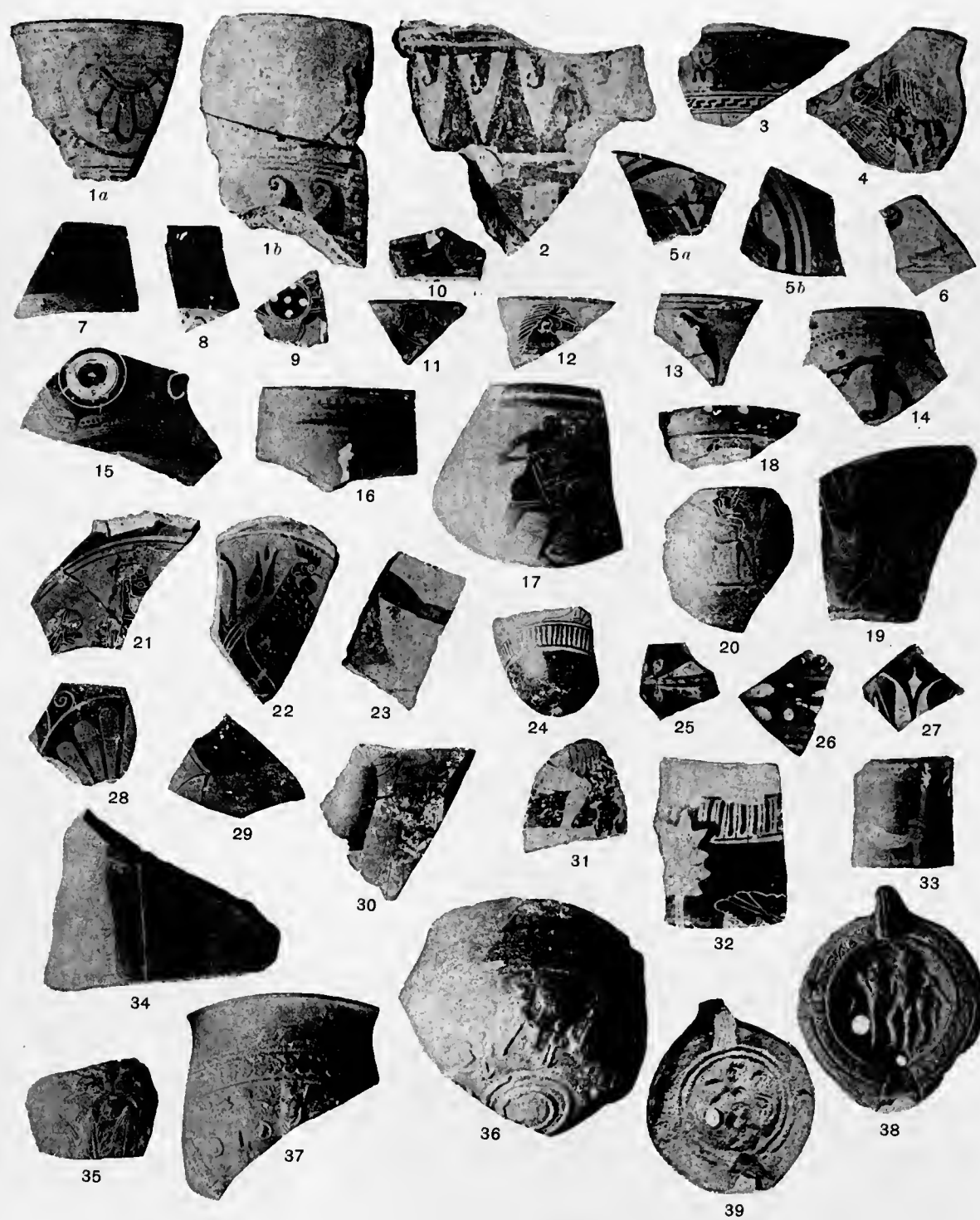
VASE FRAGMENTS.—ARGIVE STYLE.



VASE FRAGMENTS.—LOCAL STYLE.



VASE FRAGMENTS.—CORINTHIAN STYLE.



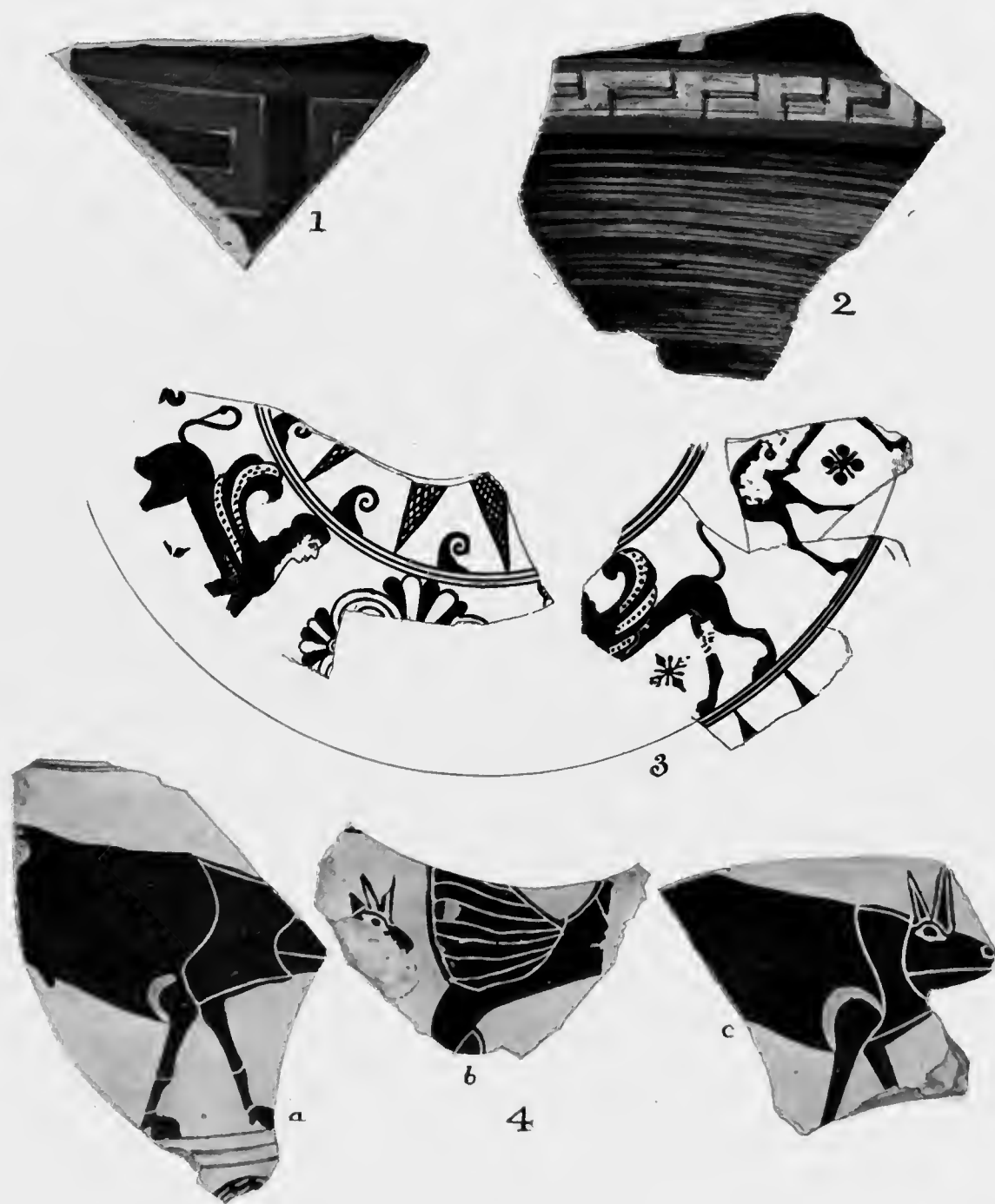
VASE FRAGMENTS.—EARLY ATTIC, CYRENAEAN, RED AND BLACK-FIGURE, MEGARA WARE, ETC.



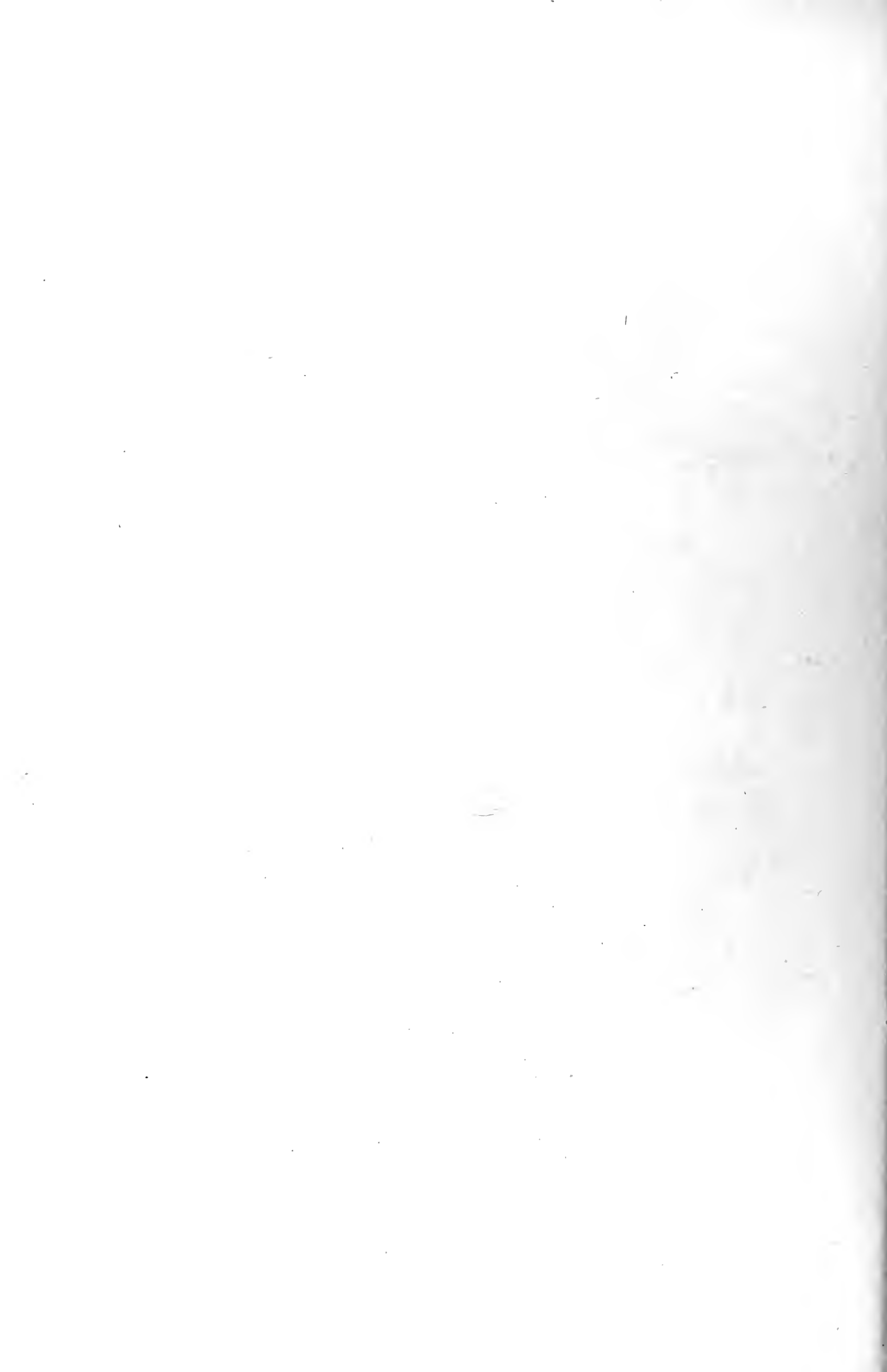
VASE FRAGMENTS.—VASES IN RELIEF.

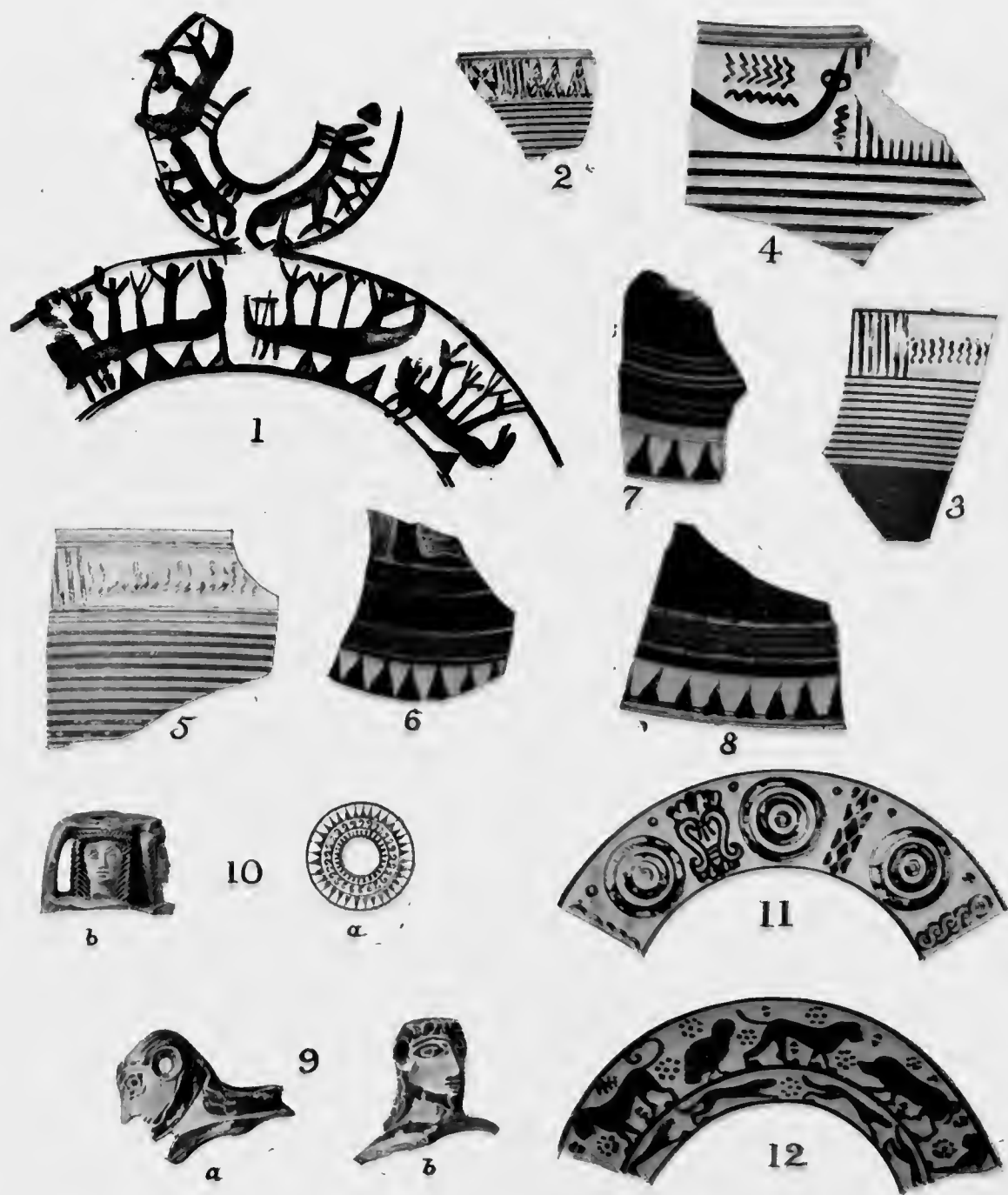


VASE FRAGMENTS.—VARIOUS ARGIVE TYPES



VASE FRAGMENTS. — ARGIVE STYLE: CLASS III

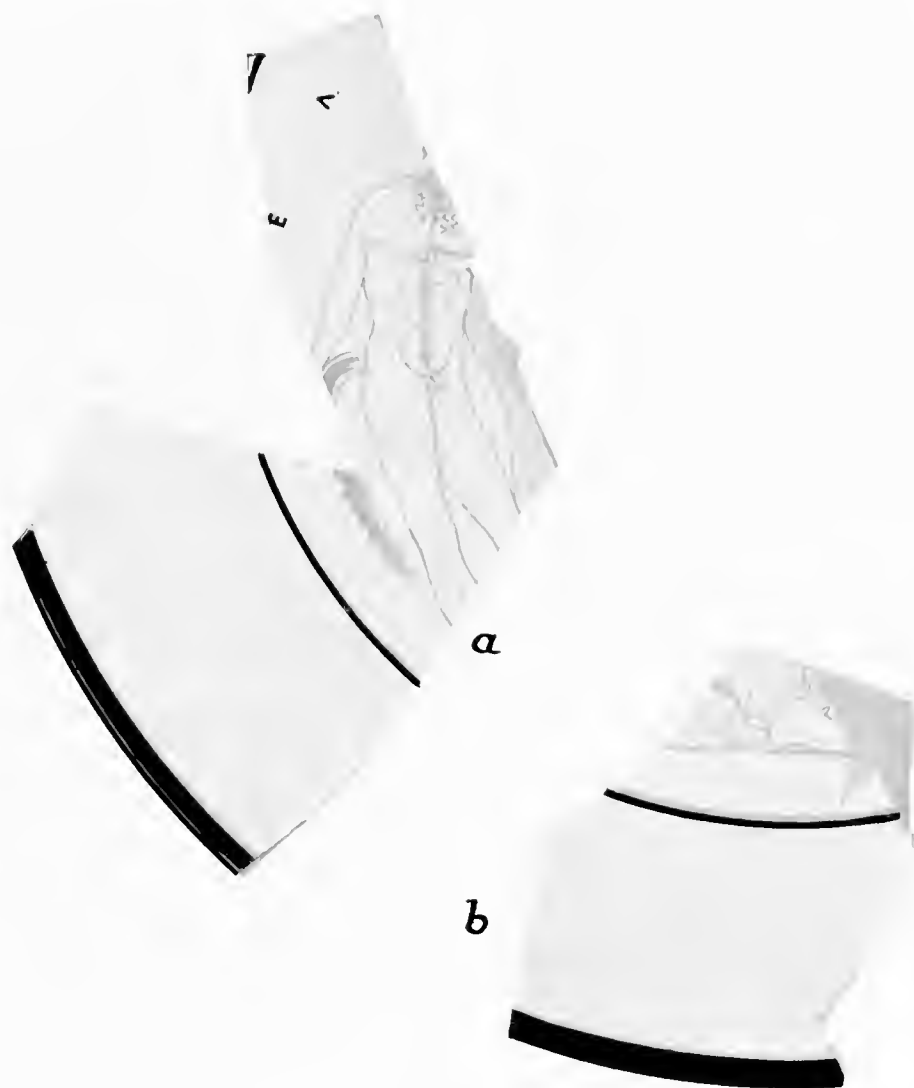




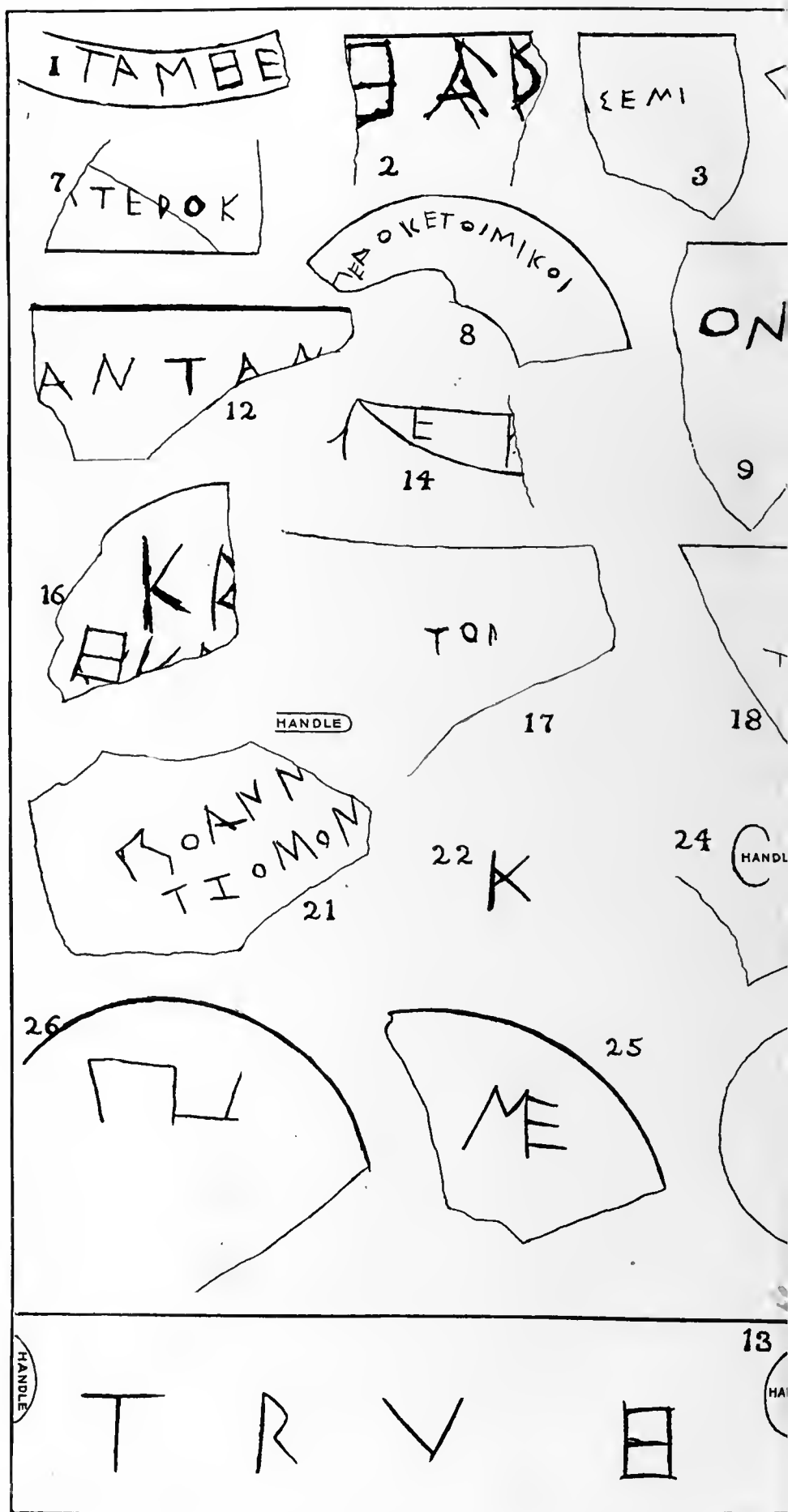
VASE FRAGMENTS. — GEOMETRIC, ARGIVE, AND LOCAL TYPES

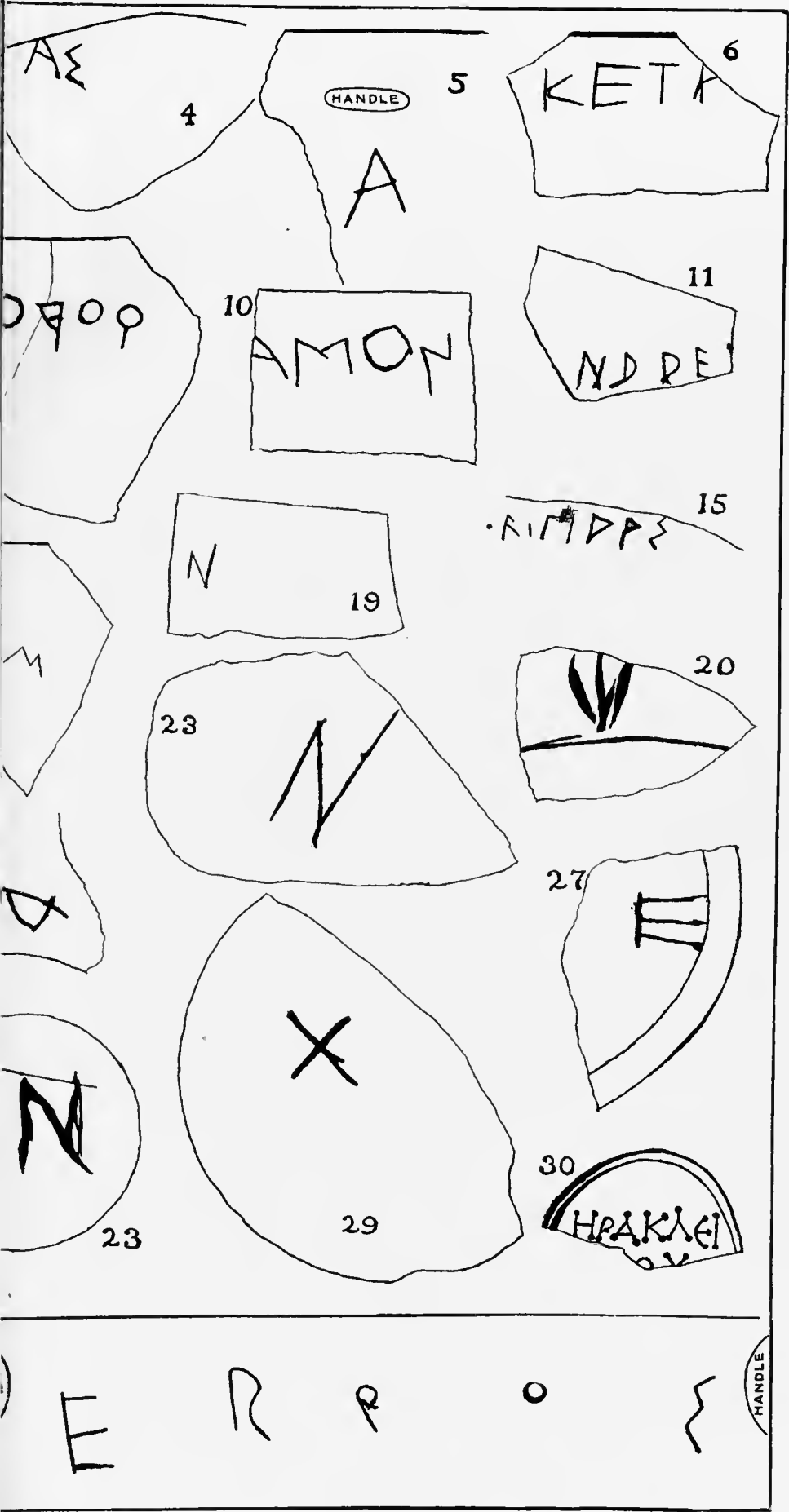


VASE FRAGMENTS. — LOCAL TYPES



VASE FRAGMENTS.—POLYCHROME KYLIX





THE BRONZES OF THE ARGIVE HERAEUM

THE BRONZES OF THE ARGIVE HERAEUM

By HERBERT FLETCHER DECOU

INTRODUCTION

THE Bronzes which are described in the following Catalogue¹ were found, for the most part, in the deposits and strata that yielded the larger portion of primitive and archaic objects in other materials, and their study is accordingly subject to the conditions of provenience which have already been set forth in the General Introduction (Vol. I. pp. 38 ff.). In other words, while many pieces were found on the uppermost terrace, and still more beneath and in front of the Cyclopean supporting wall of the same terrace, especially back of the Northeast Stoa (III), by far the greatest number lay on the west and south slopes of the main terrace, particularly near the southwest angle of the retaining wall described in Vol. I. pp. 118 ff., and so formed part of the rubbish employed in preparing the site for the Second Temple. Bronzes were also found in and about the West and Northwest buildings (VII, VIII), and, to a less extent, in other parts.

Distinctions in strata and periods of deposit, such as are mentioned in the General Introduction, Vol. I. p. 41, cannot be maintained so far as concerned the bronzes, because in their case no strata and very few depths were recorded. It may be said, however, that the general *terminus ante quem*, which is indicated for the majority of the finds by the date of the burning of the Old Temple (423 B. C.), holds with few or no exceptions for the entire mass of bronze material discovered in so far as dependence can be placed on considerations of style or comparison with the results of other excavations. Any further chronological distinctions which may be made rest entirely on such evidence.

Conclusions as to the purpose or use of buildings at the Heraeum cannot safely be drawn from the bronzes found in them, because the proveniences specially recorded, though including most of the more important objects, are in slight proportion to the total number found — 604:5738 approximately. To this principle the noticeable number of straight pins, fibulae, and rings attributed to the West Building (VII) can hardly be regarded as an exception, because it seems probable — at least to the present writer —

¹ Acknowledgments for assistance are given under the respective numbers in the catalogue, but I desire to express here my sense of particular obligation to Professors Richard Norton and J. C. Hoppin for aid of every kind, and to many other friends for encouragement and suggestions. Professor Norton's relation to the work requires furthermore a special statement. During my absence in Greece in the spring of 1903, he with the utmost kindness undertook and performed the tedious task of revising, condensing, and copying the manuscript of the Introduction and of numbers 1-1849 of the Catalogue. To Miss M. Louise Nichols is due grateful acknowledgment for the final revision of the entire manuscript for the printers. I am also under obligation to the editor-

in-chief, Professor Waldstein, for permission to undertake the work and for various suggestions, and to the Archaeological Institute and the Committee in charge of the Heraeum publication for their patience and liberality. Especial thanks are also due to the Ephors in charge of the National Museum at Athens for their unfailing courtesy, as well as to the late Dr. A. S. Murray for permission to publish the silver pin (see PLATE CXXXVII.) and for the privilege of using the reading-room of his department in the British Museum. Finally, I am indebted to Mr. C. R. Morey for service as amanuensis generously rendered to Professor Norton and myself, and to Johannes Papadakes, *τεχνίτης* in the Museum at Athens, for much assistance in cleaning the bronzes and for many practical hints.

that some of them may belong rather to the deposits about the retaining wall above mentioned.¹

The bronzes when discovered were for the most part heavily oxidized. In very few cases had the oxidation taken the form of a patina. The majority of the roughly oxidized pieces (some 3938 specimens) were cleaned by the slow and somewhat tedious process employed by the Greek government for the removal of oxides.² The patinated pieces were left untouched, together with others in which the oxides had already destroyed the bronze in whole or in part, and a considerable number of pieces which did not seem of sufficient interest to repay the trouble.

A brief account of the method of classification which has been followed in the case of these bronzes has been given in Vol. I. pp. 62 f. That in it the first division has been made according to *genera* rather than styles is due to the following considerations: (1) Throughout the study of these bronzes their rights and requirements as museum material have been kept in view. The first duty that is owed to the products of an excavation, after means have been taken to secure their preservation, is a convenient and systematic arrangement in a museum. Unless the strata or pockets in which the objects have been found are very sharply defined or clearly distinguished, the arrangement by kinds or subjects is the more convenient. (2) The same principle holds true for the first publication of the finds, because the primary object of this is, of course, to make the finds available to the public as material with which to work. In other words, the first publication of an excavation should be a portable museum, so to speak, of the objects found. (3) Our knowledge of the history and interrelations of the styles of early Greek art is, in the opinion of the writer at least, too slight and unstable to make it safe or desirable to found thereon a classification which, whether for museum or first publication, should in its main lines, at least, be, so far as possible, permanent.

In the second division an attempt has been made to group and order the objects according to style and chronology, but the method followed has been, where possible, inductive; that is, the selection and arrangement of catalogue numbers has been made with a view toward securing a continuous development from one subdivision of a type to another, and, where it seemed practicable, from type to type. It is for this purpose that many objects have been entered and described which would not of themselves be of any especial value or interest.

Though the so-called styles have not been made the main basis for classification, a list of the principal types and objects which would be attributable to them has been given in

¹ The West Building came to light before the constructions east and southeast of it, and objects found were labeled accordingly until the outline and relations of the successively appearing walls became clear.

² Described *Delton*, 1888, p. 228, and *J. H. S. X.* p. 275. Cf. Bather, *J. H. S. XIII.* p. 124. A brief description of the process may be of service to those who do not have access to the *Delton*. In a glazed earthenware bowl is spread a layer of scraps of zinc. On this are laid the bronzes to be cleaned. They are then covered with water into which about ten per cent. or less of hydrochloric acid is poured. At intervals which should not exceed two days, at least in the earlier part of the process, the bronzes and zinc (if any remains) must be taken out and brushed with a stiff brush, the bowl rinsed, and a fresh bath prepared in the same manner as the first. The

proportions of zinc and acid vary with circumstances, and must be learned by practice. This part of the process may require to be protracted from a week to a year or more, but, if all has gone well, its result is to leave the surface of the bronze entirely free from verdigris and covered with a dark brown deposit which in no way interferes with the clearness of the finest details. The remainder of the process is brief. On removal from the bath just described the bronzes are put into a solution of potash (*ανθρακικόν κάλιον*) consisting of about one part of potash to nine of water. After twenty-four hours they are removed and placed for the same period in distilled water. They are then dried and covered with a thin coating of melted white wax. A vigorous polishing with a brush completes the process.

the abstract cited above. As the material for comparison derived from deposits of datable periods is not very extensive, this list can be considered only as an approximation. Until more material is at hand, the "Primitive" period must be regarded as but scantily represented, the suspension vase (No. 2019) being almost the only object which could not well be put in one of the later periods, and even the earlier Mycenaean period offers nothing which could not equally well be assigned to later Mycenaean times.

Under "Geometric" have been included various things which should perhaps be kept apart, i. e. small animals cast in imitation of hammered technique, and engraved, punched, and *repoussé* linear designs, but as the occurrence of figures of similar technique in connection with engraved or linear ornamentation imitated in cast work is well known in the case of the large tripods, and the distinction between punched and *repoussé* work is often difficult to maintain, especially in the case of thin metal strips, it seems justifiable to group objects of similar style together without prejudice to the question as to the origin of their respective techniques. Where this is done, however, it is necessary to guard against the danger of drawing conclusions as to development and chronology from what may very likely be a fortuitous association. Because a certain type of figurine is found in certain cases in connection with engraved linear ornament, it by no means follows that we have the right to put all the bronzes which have linear ornament along with them and thus build up a great class. So at the Heraeum the tripod legs, the animals of style similar to the figures which occur on tripods, and the fibulae with the same style of figures engraved on the blade very probably belong together, but there is no adequate reason for placing the other objects, such as pins, sheathings, etc., which have linear designs, in the same category historically. Many of them are probably much earlier.

The small number of bronzes of the so-called Dipylon style thus left indicates plainly enough the slight and transitory character of the influence of this style on Argive metal work. Such specimens as Nos. 23 and 49, which have linear ornaments, are under the influence of the geometric style only in the wider sense referred to above. We can scarcely speak of a Geometric or Dipylon period so far as concerns Argive bronzes.

As has been pointed out in the above-mentioned abstract, the same is true at Argos of the so-called Oriental style. Modification of design, as in the case of the griffin, under the influence of the Orient, there may be, but that here Argos herself bore a considerable share in the construction of the new type may be inferred from the Argive crater mentioned by Herodotus (IV. 152). The essential qualities of style and technique remain what they were before, that is, Mycenaean.

The space required for the catalogue renders it inexpedient to enter here into a more general discussion of the relations of Argive metal work to that of the other centres of similar industry in Greece and Ionia. While this is reserved for another occasion, there are two points to which attention should be called: (1) The uniform technical excellence exhibited by the Heraeum bronzes, even the earliest of them; the inscription No. 1826 will serve as an approximately datable example of masterly handicraft. (2) Inasmuch as the bronzes from the Heraeum exhibit the same qualities of design, style, and technique as very many others which have been found at Olympia, Athens, Dodona, and elsewhere, it seems reasonable to consider the claims of Argos to a large share in the manufacture of such pieces as paramount, resting as they do upon a continuous tradition from Mycenaean times down and upon the actual finds.

CATALOGUE OF BRONZES

I. FRAGMENTS OF STATUES

PLATE LXX.

1.¹ Lock of hair. Provenience unknown. Broken at top. Damaged by oxidation. Straight except end, which curls out and slightly to right. Length, 0.154 m. Width at top, 0.009 m. Thickness at top, circ. 0.0025 m.; at bottom, circ. 0.0015 m. Height of curl, 0.008 m. Width of curl, i. e. diameter of semi-circle formed by it, 0.018 m. Engraved in parallel lines to show single hairs. Eight grooves at top, four at bottom of curl, where they stop just past the middle. Uncertain whether engraving was not carried to end of curl, as sur-

face is damaged at that point. Sides engraved with two grooves each.

2. Lock of hair. Provenience unknown. Broken at both ends. Length, 0.10 m. Width at top, 0.008 m.; at bottom, 0.0065 m. Thickness at top, 0.0045 m.; at bottom, 0.0025 m. Engraved to represent three strands of hair; single hairs indicated within each strand by finer lines. In first strand on left, four grooves at top and three below; in second, three at top and two at bottom; three in third. Along middle of each side, a single groove.²

II. STATUETTES AND FRAGMENTS OF STATUETTES

PLATE LXXI.

3. Horseman. From south slope, southwest corner, 1895. Surface thickly oxidized and damaged. Legs broken below knees. Hands broken, the left at wrist, the right above. Somewhat overleaned. Original surface shows around navel and fairly well beneath nipples, on upper back, on forehead, and on inner right thigh. Height 0.1275 m. Cast solid. Figure was rider as shown by position of legs, hands (hole for reins), and hole in bottom for attachment to horse. Depth of hole, 0.11 m.; direction along axis of body so attitude of figure depended on whether dowel leaned back or was

upright. Latter unlikely, as it would have made figure sit too upright.³ Arms hang stiffly; upper arms about in axis of body; forearms at nearly right angles to upper arm.⁴ Right forearm bent unnaturally. Right forearm from inner angle of elbow to knuckles, 0.031 m.; left forearm, 0.024 m. Otherwise arms naturally modeled, though no details are given. Hands perforated for round (wire?) reins. Thighs disproportionately large, especially towards hips. Knee-caps carefully indicated. Shoulders broad and square compared with waist. Upper part of chest with nipples very full compared to parts beneath.⁵ No certain indications of muscles, only faint lines

¹ Objects the catalogue numbers of which are printed in heavy-faced type are illustrated on the PLATE cited above them; light-faced types in these numbers indicate that the objects are not illustrated.

² Cf. *Olympia*, IV. Nos. 25, 26 [pl. v.], and 28 [text, p. 15], and Nat. Mus., Athens, No. 6798 (De Ridder, No. 624), from the Acropolis.

³ Gait of horse probably slow, if rider leaned back, as examples of galloping or rearing horses the riders of which lean forward are numerous in archaic art. Cf. amphora from Caere, *Wiener Vorlegeblätter*, 1889, pl. x., two amphorae of Nicosthenes, *ibid.* 1890-91, pl. iii., cylix of Pamphaeus, Harrison and Maccoll, pl. viii., and one of Onesimus, Hartwig, *Meisterschalen*, pl. liii. An exception on pithos in Vienna, Masner, *Samml. antiker Vasen*, p. 19, No. 210. Upright rider with head forward on slow horse

on Corinthian aryballos, Lau, *Die griech. Vasen*, pl. iv. No. 2.

⁴ Bronze rider found between Sparta and Megalopolis, now in Nat. Mus., Athens (No. 7549 = De Ridder, *Bronzes de la Soc. Arch.* No. 860, pl. ii.), has about same angle at elbow, but greater angle at shoulder: hence hands meet lower down.

⁵ Cf. Holleaux, *B. C. H.* XI. p. 363, and examples of extra Peloponnesian provenience, the marble statue in the Brit. Mus. (*Catalogue*, Vol. I. p. 84, No. 205; cf. Furtwängler, *A. Z.* 1882, pp. 51 ff. pl. iv.), and the marble horseman in the Acropolis museum, No. 590 (Winter, *Jahrbuch*, VIII. p. 138, No. 7; Sophoules, *Εφημ. Αρχ.* 1887, pl. ii.). Torso from Aetium in the Louvre, *Gaz. Arch.* XI. (1886), pp. 235 ff. pl. xxix. (Collignon).

running horizontally across chest, distant from pubes 0.031 m., 0.0165 m., 0.0145 m. These probably accidental and due to oxidation. Note that two planes meet at the nipples. Slight swelling of abdomen. Navel slightly indicated. Distance from pubes to plane of nipples, 0.037 m.; to base of neck, 0.0565 m. Distance between nipples, circ. 0.019 m. Back has no details except slight depression along spinal column. Angle of back to rump too sharp, thus making hips too prominent. Head high and shallow. Height from chin to top, 0.026 m. Depth from forehead to back, circ. 0.021 m. Width above ears, circ. 0.019 m.¹ Face high and well proportioned. Contour vertical. Distance from tip of chin to approximate end of nose, from end of nose to beginning, from beginning to top of forehead, each circ. 0.006 m. Flat cheeks have high bones. Chin broad and flat. Mouth small, curving slightly upward. Nose was straight. Eyes large, rounded, set in large sockets. Upper lid and eyebrow of left eye may be traced. Measurements by Kalkmann's system (in metres): —

Hair-nose. Lower face.	Hair-mouth. Mouth-chin.	Hair-eye. Eye-chin.	Hair-eye. Eye-nose. Lower face.	Hair-eye. Eye-mouth. Mouth-chin.
* 0.011(5) 0.007	* 0.014(5) 0.004	0.006(5) * 0.012	0.006(5) * 0.005	0.006(5) * 0.008
* 0.018(5)	0.018(5)	0.018(5)	0.007 0.018(5)	0.004 0.018(5)
Canon.				
* 0.012 0.006	* 0.014 0.004	0.006 * 0.012	0.006 * 0.006	0.006 * 0.008
* 0.018	0.018	0.018	0.006 0.018	0.004 0.018

Ears about normal, but superficially treated. Project nearly at right angles. Upper edge of lobe on line with outer corner of eye. Top on line with eyebrows. Slight attempt at detail. Hair much injured on top.² Original treatment uncertain. Bound by taenia, which is visible at back and up to ears, but uncertain whether it

passed over top of head or over forehead, and was covered at sides by overhanging locks. Former seems more probable. At back, hair falls to shoulders in heavy rounded mass, ending in flat tip. Originally engraved with fine lines running toward tip. Of this only slight indications remain. Tip at end shows tying of ends of hair. No folding either under or over.³ No trace of cord, but trace of depression where it passed. Height of tip, 0.007 m.; width, 0.008 m. Falls circ. 0.009 m. below top of shoulder. Front of hair formed by three carefully engraved curls starting behind ears and falling backward in a curve towards tip.⁴ Neck large and thick. Height, 0.004 m. Period to be determined from head, which is more advanced than body. Later than the "Apollo" figures of the first group (Thera, Orchemenos, Melos, etc.), but earlier than the Apollo of Canachus at Didyma or its replicas (Payne-Knight, Piombino, Naxos, etc.). Probably a little later, to judge from hair and arms, than the statue at Delphi by Polymedes (Homolle, *B. C. H.* XXIV. [1900], pp. 445 ff.). The bronze reliefs, *Olympia*, Nos. 707 (pl. xxxix.), 707 a, are not closely similar in style.

PLATE LXX.

4. Bearded standing male figure. Provenience unknown. Height, 0.0605 m. Cast solid. Surface suffered from oxidation. Arms hang stiff, with hands open and flat, with extended fingers attached to thighs. Arms small, with no modeling. Left thumb seems to show a nail. Length of arms, including fingers, right, 0.0235 m.; left, 0.024 m. Arms separated from body by relatively large opening which is cut higher on right side. Legs and feet fastened together, even to tips of toes. Toes partially indicated on left foot. Contour of legs fairly good. Length of feet, left, 0.008 m.; right, 0.007 m. Broad square shoulders. Body and waist not excessively thin. No indication of belly, navel, or nipples, but chest slightly fuller than abdomen. Circumference at shoulders, 0.047 m.; at waist,

¹ Note brachycephalism (cephalic index 90 l) as compared with shape of later Peloponnesian heads.

² Cf. *B. M. Cat. of Bronzes*, No. 210, and Perrot and Chipiez, *Histoire de l'Art*, I. (*Égypte*), p. 664, fig. 452.

³ End of tip folded under in Nike of Archermus type, Acropolis Museum, No. 690, as is shown by lines of engraving. For doubtful cases, cf. François vase, *οἰνοχόη* of Cholechos in Berlin (*Wiener Vorlegebl.* 1889, pl. i. 2 b), hydria of Timagoras in the Louvre (*ibid.* pl. v. 4 c), and b.-f. amphora (Gerhard, IV. pl. cclxiv. 1).

⁴ Thus differing from early "Apollo" type (Orcheme-

nos, Thera, Melos, etc.) on the one hand, and on the other from types represented by statuettes from Naxos (Fränkel, *A. Z.* 1879, p. 84, pl. 7) and from Ptoön (Holleaux, *B. C. H.* X. p. 190, pl. 9). An intermediate or combination type also from Ptoön (Kabbadias, *Κατάλογος τῶν Γλυπτῶν*, No. 16, Holleaux, *B. C. H.* X. pp. 73 ff., pl. 7), with one curl over breast and two over shoulder behind. See in general, Conze, *Nuove Mem. dell' Inst.* pp. 408 ff., Waldstein, *J. H. S. I.* pp. 168 ff., Schreiber, *Ath. Mith.* VIII. pp. 246 ff., IX. pp. 232 ff., Studniczka, *Jahrbuch*, XI. (1896), pp. 289 ff.

0.03 m. Back short. Rump high and prominent, parted by groove, which continues straight down to bottom of feet. Head high and wide, but shallow. Height, 0.0145 m. Width above ears, 0.0125 m. Depth from bridge of nose to back, 0.011 m. Face retreats sharply from tip of nose to top of forehead. Top of forehead seems to form ridge running nearly from ear to ear. It may be a diadem, but probably not. Nose short and prominent. Eyes large, in large sockets. Left more rounded than right. Mouth short (0.0035 m.) and wide. Under lip flattened, with groove near the top, thus making mouth seem wide open. Chin long. Beard mainly destroyed, showing chiefly in sharpness of angle along line of jaws. Ears large and prominent, set high. Slight attempt at modeling interior of ear, noticeable especially in right. Top of forehead to bridge of nose, 0.0075 m. Tip of nose to mouth, 0.002 m.; to chin, 0.0065 m. Bridge of nose to ears, 0.008 m. No indication of particular dressing of hair.

5. Upper part of female figure. From south slope. Height, 0.094 m. Cast solid. Figure broken at navel. Arms also broken. Front of hair damaged on the right side, between centre and right rosettes, and the right rosette (not ear-ring) is destroyed. Headdress broken, so that original form is uncertain. On right side, lower right volute was apparently attached to the lotus-blossom above by transverse piece, of which only stub remains. On lotus-blossom just above lower right corner is seen place where something was attached. Centre of this place, 0.00125 m. from upper right side of flower. On left side, left volute gone. On left side of lotus, 0.012 m. from top of left side is similar attachment place to that on right side. Top of headdress slightly irregular but does not appear to be broken, as lines of engraving of the back piece continue over top. Surface of bronze well preserved except for abrasions. Figure was probably standing. Left hand probably held object. Action of right arm uncertain, but probably held some-

thing¹ stretched out from elbow. Action of lower part of figure uncertain but seems probable that it was a free-standing statuette, though it may have stood on a base. Figure entirely nude,² as shown by indication of navel.³ Style of figure archaic of advanced type, marked by ease and sureness of technique. Breasts, slight and angular, ending in blunt and rounded points. No indication of nipples. Body modeled in two planes; the upper from neck to nipples, lower continuing thence straight downward. Between breasts and navel two broad shallow furrows, connected by similar perpendicular furrow.⁴ Back without details. In general, body of this figure shows artist's effort to escape from uniformity and sexlessness of the nude type. Considerable skill, relatively, is shown in modeling of arms. Position of right arm together with muscle shows that it did not hang loosely, but was probably extended at elbow. Neck full and rather long. Length, 0.007 m. Sharply differentiated from the body. On chest just below neck is necklace in zigzag pattern.⁵ Head high and somewhat shallow. Height from chin to top of headdress in front, 0.021 m. Depth from bridge of nose to back, circ. 0.0175 m. Forehead appears low because of headdress, but quite full over eyes. Eyes large, set in plainly defined sockets. Ball of eye full. Upper and lower lids shown. No prolongation of upper lid over lower at outer corner. Indication of eyebrows uncertain. Nose straight and regular. Mouth short (0.0035 m.). Lips prominent, rather thick.⁶ Chin pointed and prominent. Cheekbones high. Cheeks well modeled. Kalkmann's measurements:—

* Hair-nose. Lower face.	* Hair-mouth. Mouth-chin.	Hair-eye. * Eye-chin.	Hair-eye. * Eye-nose. Lower face.	Hair-eye. * Eye-mouth. Mouth-chin.
0.009	0.012	0.006	0.006	0.006
0.007	0.004	0.010	0.003	0.006
0.016	0.016	0.016	0.007	0.004
			0.016	0.016

¹ Perhaps flower, as in bronze statuette in Trau collection (Gurlitt, *Arch.-Epig. Mittheil. aus Oesterreich*, II. pp. 159 ff., pl. viii.).

² For other examples of nude female type, cf. Körte, *Archäolog. Stud. II. Brunn dargeb.* pp. 19 ff., De Ridder, *Ἐφημ.* 'Αρχ. 1895, coll. 171, n. 4. Also Marx, *Athen. Mith.* X. pp. 177 ff., pl. vi.

³ *Διάζωμα*, as in mirror-handle, *Ἐφημ.* 'Αρχ. 1895, pl. vii. (De Ridder), not excluded.

⁴ Cf. Naxos statuette, *Arch. Zeit.* XXXVII. (1879), pl.

vii. (Fränkel), and horseman from Peloponnese, De Ridder, *Bronzes de la Soc. Arch.* No. 860, pl. ii.

⁵ Cf. Perrot and Chipiez, *Histoire de l'Art*, I. (*Égypte*), p. 762, fig. 511; III. (*Cypre*), p. 531, fig. 358. Design occurs also on several terra-cottas from the Heraeum.

⁶ Cf. archaic female terra-cotta head in Acropolis Museum (*Ἀθηναία Εἰδωλίων*, case η), bronze statuette in National Museum at Athens (No. 6576), and terra-cotta mask from Tanagra in same museum (No. 4143).

Ears slightly indicated under headdress. Rosettes projecting from headdress opposite angle of jaw, undoubtedly earrings. If lobe of ear is considered as coming as far down as these rosettes, the ears would be placed remarkably correctly for an archaic work. Head on top and behind covered with sort of wig of nearly uniform thickness. This wig lies low on forehead. From temples it slopes off to the ears, beneath which it swells forward to about middle of side of neck. Hair falls down at back to a blunt point. No indication of tying at tip or of folding under. From top of shoulders, two flat curls, hanging downward on either side of the breast. Head-dress ornamented with rosettes¹ above the temples and the centre of forehead. They consist of slightly concave disks, with tiny knob in centre. From this centre engraved lines radiate to outer edge. Hair and curls ornamented with short, oblong punch-marks, except on left side of head. For front hair (forehead, neck, and curls) a smaller punch seems to have been used. Above headdress is ornament of lotus flower and bud, rising from volutes.² Height, 0.0305 m.

Of these volutes, three remain, of which the two larger are placed back to back. The other at the right curls under end of bar which connects the former. Whether there was another volute is uncertain. These volutes ornamented with irregular engraving. The larger volutes were meant to be connected by oblong ornament across their face. This ornament consists of a zigzag inclosed by a rectangle, and seems to have been stamped with a concave punch. The

lotus ornament rises above central volutes and consists of bud, sides of flower and palmette-shaped back of same. Bud ornamented by fine line running near edge, all around from top of stalk, and by slight punch-marks struck between the lines. Back of ornament is entirely plain, and rests against nail-like support³ growing out of top of head, with which it is cast in one piece. Lotus and volute seem cast separately and welded on to head.⁴

Probably to be understood as Aphrodite with Orientalizing headdress. Cf. De Ridder, *Bronzes de l'Acropole*, Nos. 806, 820, 799 ff., and Petersen, *Athen. Mitth.* XI. p. 375. For indirect analogies, cf. Astarte with Hathor crown, Roseher, *Lexikon d. Mythologie*, I. coll. 652 f. (E. Meyer), the Syrian, Cypriot, and Graeco-Roman combination Aphrodite-Isis, *ibid.* II. coll. 495 (Drexler), and the Hellenistic identification of Isis with Io, *ibid.* coll. 439 f. Not to be identified with Isis, because earlier than introduction of her cult into Greece.

Period about that of Apollo of Canachos at Didyma.

6. Fragment of leg. Provenience not known. Badly preserved. Length, 0.0325 m. Cast solid. Probably of male figure. Modeling superficial. Knee-cap appears to have been especially indicated. From appearance of back on the left seems to be right leg.

7. Fragment of leg. Length, 0.022 m. Provenience unknown. Solid. Left side slightly flatter than right. So probably piece of left leg. No details. Bent slightly at knee.

III. ANIMALS

FREE AND ATTACHED FIGURES

1. HORSES.

GEOMETRIC STYLE.

Type a.

PLATE LXXII.

8. Stallion. Found back of South Building. Solid. Base broken off in cleaning. Tail gone

¹ Cf. Cesnola, *Descriptive Atlas of the Cesnola Collection*, II. pl. xlviii., Perrot and Chipiez, *op. cit.* III. (Cyprus), p. 545, fig. 371, and head from Cyprus in Nat. Mus. at Athens (No. 66).

² Cf. volutes on sphinx-heads on serap of archaic bronze relief from Corinth. *Jahrb.* IX. Auz. p. 117, fig. 10.

³ Top of support flat, closed, and ornamented with zigzag near edge. Represents mouth of lecythus. Cf.

except where attached to base. Hind legs, front left leg, and nose close to neck broken. Otherwise fairly well preserved. Original height, 0.068 m. Present height with base, 0.064 m. Body cylindrical and rather long. Attempt to indicate shoulders. Legs flat, especially near body, where they are slightly hollowed on inside.

Henzey, *Figurines de terre cuite du Louvre*, pl. xiii. Nos. 4 and 6 (Rhodes), Körte, *Arch. Zeit.* XXXV. pp. 116 f., pl. ii. (Orvieto), Winter, *Jahrbuch*, XIV. pp. 73 ff.

⁴ Ornament appears to be translation of Osiris crown into terms of lotus. Thus the crown of upper Egypt is represented by bud, plumes by sides of flower, ram's horns by extended volutes at base, and asp heads perhaps by last upper portions of volute.

Hoeks and knees indicated by knobs or protuberances. Neck wide and flat, with curve where mane should be. Bent slightly to right. Nose rectangular, upper head flattened. Forelock indicated. Eyes and ears not clearly distinguishable. Base¹ ornamented on under side with line running entire length. On left side of line, tooth-ornament. On right side a heavy zigzag, outside of which along edge a narrow tooth-ornament pointed inward. Near front right corner, small indentation. Front left corner broken off. This animal is of the severe or angular geometric style, marked by long body with angular jointing of neck and legs, crupper rising very little above back. Extreme flatness of neck also a feature of this phase of the style.

9. Hind part of horse. Stallion. Provenience unknown. Fragment. Heavily oxidized. Height, 0.032 m. Solid. Body slightly almond-shaped, being narrower at top. Legs flat, joined to body angularly. Parts between legs and under tail deeply underent.

Type b.

10. Horse with base. Provenience unknown. Neck and tail broken. Solid. Height, 0.004 m. Length of base, 0.0355 m. Width in front, 0.0135 m. Body short, slightly almond-shaped, as No. 9. Crupper high. Legs long and flat. Hips and shoulders not sharply set off, nor is joining to body angular. Attempt to show difference between fore and hind quarters at juncture with body. Knees and hoeks shown by sudden decrease in thickness on outside, the inside lines being straight. Body underent between legs, especially at back. No indication of sex. Feet not distinguished. Neck flat. Base plain on top. Below deeply underent so as to show zigzag in relief, running lengthwise, with field at either side inclosed on front and sides by rim or frame, which is omitted at back. Shortness of body, lack of angularity of joining of legs, and treatment of back mark this as milder geometric style. Antiquity shown by treatment of knees, hoeks, and plainness of neck.

11. Horse with base. Found southeast of temple, near wall, 1893. Right hind leg broken. Solid. Height, 0.0445 m. Length, 0.046 m. Length of base, 0.04 m. Width, 0.016 m. Body small, nearly cylindrical; rather long. Crupper high, joining back with natural curve. Neck joins body more angularly, but softened

with attempt to imitate nature. Legs small; shoulders scarcely marked, and hind quarters very small. Knees indicated only by outward bend. Left hoek fairly truthful. Tail hangs straight down and is attached to base. No indication of sex. Neck flat, slightly curved along the mane. Ears indicated. Between them ridge for forelock. No certain indication of eyes, but an engraved line from right ear to top of nose, continued on other side to mouth. Joined on right side (of animal) by similar line. A semicircle engraved close to end of nose. Top of base plain, but bottom ornamented with zigzag pattern, consisting of double row of teeth running lengthwise, one in one direction, one in the other.² Each pair has centre line in common. Style similar to No. 10, but more advanced, as shown by treatment of neck, where it joins body, and by joints of legs.³

Type c.

12. Horse with base. Found east of Northwest Building, 1895. Legs broken. Solid. Height, 0.0765 m. Length, 0.069 m. Length of base, 0.048 m. Width (front), 0.0165 m. Width (back), 0.0185 m. Body rather short, slightly almond-shaped. Crupper fairly high. Legs long. Shoulders and hind quarters carefully distinguished from body. Hoeks indicated by slight projections with notch above. Tail curves outward and is attached to base. Legs underent at body, more behind than in front. No mark of sex. Mane not indicated, but there is high forelock and crest, which with part beneath was probably conceived to be covered with hair. Crest underent above nose, which is nearly round. No mouth or eyes visible. Lumps at side of head are ears. Base plain on top; bottom divided into two rectangular fields of about equal size, each surrounded by a rim. In left field, under hind legs, lion in relief to right with tail over back. Above neck, indistinct object, possibly upper part of a man. In right field a horse to left, moving. No details given, but head and body long, neck short, tail hangs straight. Above horse, a lizard (probably), to right. In upper right corner a serpent (perhaps) rampant. In this base and in that of the others, except No. 15, technique is that of carved design (probably in wood) impressed on clay model. This horse is a further development of type of Nos. 8 and 9.

¹ Cf. *Olympia*, No. 213 a.

² Cf. *Olympia*, No. 217 a.

³ Similar, but with flatter legs, *Olympia*, No. 200.

Type d.

PLATE LXXIII.

13. Horse with base. Provenience unknown. Tail broken. Solid. Height, 0.066 m. Length of base, 0.0485 m. Width (front), 0.024 m. Width (back), 0.026 m. Body short. Slightly almond-shaped. High crupper. Neck attached angularly, but not as sharply as in No. **12**. Shoulders not sharply differentiated from body. (Cf. No. **11**.) Left hind quarter distinguished a little more carefully than right. Knees shown by sudden narrowing in front, as though part of leg were cut out. Hocks given in same way. No feet. Undercut between fore legs up to line of body, square across. Partially undercut at back, especially between legs, which are wide apart, and under tail. Uncertain whether sex was indicated. Tail attached to end of base. On right side of neck a little back of centre, two concentric circles. Between this and head, traces of double line of dots across side of neck. Close to head similar line running across neck. Below circles a line of dots which does not at either end come to edge of neck. Beneath it, three other parallel rows. In front, the ends connected by irregular convex line of dots. At the back, first and second lines are connected square across. Connection between other lines doubtful. At right of rings there seems to be a broad zigzag connecting the lines at top and lower part of neck. On left side of neck, double row of dots just below ears. At bottom of neck another double row. Above second row, a wavy row. Across middle of neck, an indistinct pattern, perhaps a zigzag, in middle of which and of neck, a punch-mark, around which a small ring. Between right side of this zigzag and lines at top of neck apparently a similar irregular zigzag. No indication of mane.¹ Nose long and cylindrical. Mouth indicated. Right eye shown by dot and circle. No certain trace of left eye. Right ear has engraved line down centre. Left ear has two such lines. Crest between ears. Base appears to have line of dots down both sides on top, near edge. Between front and back legs, cross of a double line of dots. At back, between tail and left side, double row of dots about 0.0015 m. apart. Bottom of base divided by raised line into two rectangular fields, surrounded on front and sides by a double

raised frame. At back, single frame, from tail to bottom; none above. In left field under hind feet, horse standing to right with neck, head, and ears fairly natural. Above horse, in field, indistinct animal, showing head, four legs, and short tail. In right field, a lion to left walking, with tail curled over back; mouth open. Eye represented by knob in relief. End of tail bushy. This horse unites severe and milder types (**a** and **b**) before described. More advanced in technique, but in spite of certain softnesses, clings tenaciously to style as against nature.

Type e. Early naturalistic and transitional.

14. Horse. Found under Cyclopean wall above the east end of Stoa, 1893. Condition very poor. Base broken off in cleaning. Legs and tail gone. Solid. Height with base, 0.041 m. Length of base, 0.044 m. Width of base, 0.02 m. Body long; nearly cylindrical, though slightly narrower in upper part. Crupper fairly high. Hock shown in left hind leg, marked by bend, and clearly defined exterior angle. Left knee indicated by bend and slight swelling. Body roughly undercut between legs. No indication of sex; probably female. Neck attached to body at obtuse angle with easy curve; about cylindrical. No mane. Top of head and face a triangle. No trace of eyes, mouth, or ears, due probably to bad preservation. Base plain on top. Bottom ornamented with parallel rows of arrowheads in relief running toward back, the whole inclosed by raised frame which forms outer edge of base. This animal is of geometric style, as base and undercutting between legs show. Body, shoulders, hips, and legs are of **Type b**. The neck is devoid of style and convention and more naturalistic. The head excessively rude and clumsy. The piece is probably as early as Nos. **8** and **9**, and earlier than Nos. **10** or **11**. In view of the radical stylistic characteristics of even the earliest and rudest geometric work, it is better to regard it not as preparatory to the geometric period but as the outgrowth of coexistent naturalistic tendencies.²

15. Horse with base.³ Provenience unknown. Preservation fair. Solid. Height, 0.028 m. Length, 0.042 m. Length of base, 0.0305 m. Width of base, 0.015 m. Body somewhat ovoid in profile; rather long. Slopes from neck to tail.

teristics of geometric style clearly indicated. For style of base, cf. *Olympia*, No. 217 a.

³ Base, PLATE CXXXVII.

¹ For body, neck, and legs, cf. *Olympia*, No. 200 a.

² No clear stylistic parallel from *Olympia*. The nearest, *Olympia*, No. 163, having flat neck and other charac-

No crupper. Legs short and thick. No shoulders, hips, knees, or hocks. Tail descends in curve to base. Body not undercut. Between hind legs remains a wall of metal, though it is undercut or hollowed out a little in front and rear. No sign of sex. Neck a flat ellipse, thinner at back than in front, joined to body at obtuse angle, with easy curve. Head rather flat. Mouth indicated, but not eyes. Ears rudimentary. No mane. Base of flatiron shape, plain on top. Bottom has one lengthwise line a little to right of centre, also some irregular lines at front and back and irregular diamond pattern at centre. Head, back, and body of free geometric style. Neck shows naturalistic influences. Base probably geometric, although the rude engraving might belong to any time.¹

16. Horse with base. From Northwest Building, 1894. Bits of legs and tail broken off. Solid. Height, 0.03 m. Length, 0.055 m. Length of base, 0.032 m. Width, 0.016 m. Body short and cylindrical, swelling quickly into shoulders and hips. Crupper high and round. Shoulders and hips attached as in Nos. **10** and **11**, but more freely. Hips light as compared with shoulders. Knees shown by bend; hocks indicated plastically. Body not undercut in front, but cut out broadly between hind legs. Sex not shown. The animal is shown as looking forward and down. Neck nearly cylindrical. Ears project forward and up. Eyes formed by two holes close together. Mouth open, and on left side are notches, probably to imitate teeth. Notches not so plain on right. Upper side of base plain. Bottom ornamented with transverse zigzags arranged to make double line of arrowheads. No border. Base is geometric; body and legs also of less severe type (**b**). Neck and head naturalistic.²

PLATE LXXIV.

17. Horse with base detached. Found below east end of Cyclopean wall, 1893. Legs and tail broken, stubs remaining on base. Badly preserved. Solid. Height, with base, 0.068 m. Length of base, 0.0515 m. Body cylindrical, but short. Crupper fairly high. Neck attached angularly. Fore quarters heavy, showing considerable attempt to imitate nature. Hind quarters lighter. Hocks carefully modeled. Body not undercut in front, and but slightly

between hind legs. Sex not indicated. Neck flat, but not thin; only slightly curved. Mane not indicated. Head short. Eyes shown by two holes³ bored from sides. Beneath eyes and running back are the ears. Upper side of base has row of dots at back near edge, and apparently a double row on right side. Bottom divided by line made by cutting either side of it into lengthwise fields, each of which is engraved with two parallel zigzag lines. These lines produce effects of zigzag in relief, with line of tooth-ornament also in relief at either side. In this figure the freer and more natural shape of body and shoulders, lack of undercutting, and greater thickness of neck are marks of emancipation from the geometric style, which, however, is still shown in the base, and in the flatness of neck.

NATURALISTIC STYLE.

PLATE LXXIV.

18. Horse (uncertain whether originally with base). Provenience unknown. Ears, legs, and tail broken. Solid. Height, 0.057 m. Length, 0.08 m. Body full, tends to cylindrical form. Back terminates in ridge from tip to tail. Body long, crupper slight. Shoulders slight, but full in front. Hips carefully marked. Hock indicated. Cut roughly between hind legs, but not undercut. No mark of sex. On middle of back two short cuts, and three at base of neck, which is short and thick. Neck thicker behind than in geometric types, and has sort of dewlap in front. Head short and thick. Eye indicated by circle. Forehead between eyes high, and marked by arrowhead over nose. This animal shows no true geometric influence, but imitates nature in manner of early archaic period, scarcely any detail being correct.

2. DEER.

GEOMETRIC STYLE.

Type a. Rigid.

PLATE LXXIII.

19. Deer with antlers, on base. From northwest corner of West Building, 1894. Fair preservation. Solid. Height, 0.0525 m. Length, 0.037 m. Length of base, 0.021 m. Width of base, 0.0135 m. Body short and rather flat.

¹ Cf. animals of so-called terra-cotta style; *Olympia*, Nos. 128, 130, 135, etc.

² Style not paralleled at *Olympia*, but cf. with *Olympia*,

Nos. 181 ff., regarded by Furtwängler as geometric of exceptional naturalism. For base, cf. *Olympia*, No. 217 a.

³ Now appear as groove, owing to bad preservation.

Slight rise over hips. Legs flat, and slightly wider at top to indicate shoulders and hips. Knees and hocks unindicated. Legs undercut, but not deeply. No mark of sex. Ears and mouth not shown. Uncertain whether eyes were represented. Horns rise in upright branches, each having short projecting prong near top and longer prong at bottom. Rectangular base, worked to represent frame, enclosing zigzag shaped like a three-stroke sigma. Body, neck, and legs indicate geometric style of severer type.

Type b. Less rigid.

20. Deer with base. From northwest side of Upper Terrace, 1891. Fair preservation. Solid. Height, 0.041 m. Length, 0.045 m. Length of base, 0.029 m. Width of base (front), 0.0165 m. Width of base (back), 0.018 m. Body nearly cylindrical at shoulder. Slopes toward crupper like a cone. Crupper high and pointed. Upper front legs heavy. Hips not shown. No undercutting, but legs well separated. No mark of sex. Neck (almost cylindrical) rises nearly straight, but increases slightly toward head and body. Head broad and flat. No ears or mouth. Uncertain whether eyes were indicated. Right horn projects up and back. Left horn broken. Top of base has zigzag across ends and diagonal cross from leg to leg. Bottom has rudely cut intaglio figure of uncertain significance, around which is a zigzag. Neck, body, and hind legs mark less rigid type.

EARLY NATURALISTIC STYLE.

PLATE LXXIV.

21. Deer (uncertain whether with base). Found 1891. Condition poor. Solid. Height, 0.096 m. Length, 0.1185 m. Body long and nearly cylindrical, swelling and rising slightly towards crupper, which is long and high. Hind legs are naturally attached. Hock shown by swelling and bend of leg. Front legs drawn up for a spring. Manner of drawing up and attachment of front legs stiff and awkward. Back of front legs are deep holes. Neck roundish. Head roughly triangular. Ear projects straight out, and slightly downward and for-

ward. Eyes set slanting, nearly in line with axis of head, and somewhat protuberant. Mouth probably indicated. This animal falls not far from end of geometric period, of which holes between legs and distance between hind legs are a reminder. Eyes probably also in that style. Remainder of figure naturalistic, but there is a slight stiffness throughout, marking the recent emancipation from geometric forms.¹

3. SHEEP.

EARLY NATURALISTIC STYLE.

22. Ram (probably) with base. From Northwest Building, 1894. Preservation fair. Solid. Height, 0.014 m. Length, 0.0235 m. Length of base, 0.0145 m. Width of base, 0.0075 m. Body short and rounded, but higher than wide, rather flat on bottom. Legs short, thick, and without joints. No shoulders, but clumsy trace of hips. Crupper fairly high. Neck short and thick; hole through base. No certain indication of mouth or eyes. Not undercut between legs. Hind legs not completely separated. Base plain on top. Below, divided by two engraved lines running lengthwise. Contemporary with geometric work, which is shown by rudeness of base, but rather naturalistic in style.²

4. CATTLE.

NATURALISTIC STYLE.

Type a. Geometric influence.

PLATE LXXV.

23. Head of cow.³ Attached figure. From northwest of West Building, 1894. Condition good (except for loss of left ear). Head solid; neck hollow. Length of top from rim to forehead, 0.0435 m. Length of bottom from rim to nose, 0.0435 m. Attached to slightly convex surface by thin rim at base. Neck of natural shape, lower side representing folds of dewlap. Above, neck distinguished from head by line drawn back of horns, which line forms base of triangle, apex being 0.005 m. from rim. Within triangle are eight lines drawn from base toward apex. Cheeks ornamented with engraved line,⁴

¹ In Brit. Mus., First Vase-room, Case E, is a bronze statuette of goat from Camirus, similar to above specimens, but with geometric elements slightly more marked.

² Cf. *Olympia*, No. 214.

³ Cf. cow in Nat. Mus., Athens, No. 7392. Head shows similar eyes and rosette, but simpler. Bursian and

Rangabe found "una piccola testa di bue veduta dalla parte d'innanzi ehe sembra esser stata affissa a qualche parete a guisa d'anatema." *Bull. d. Inst.* 1854, p. xvi.

⁴ Here and elsewhere in this object probably executed in the model rather than in the cast bronze.

close to edge around curve, and by seven lines drawn from it diagonally downward. Ear similar to No. 21, but hollowed out more on under side. Horns 0.064 m. between tips. Engraved lines on front of forehead continued over top to line behind ears. Eyes set almost vertically. Consist of nearly round ball with oblong lids meeting in acute angles. Between eyes rosette and half-diamond.¹ From lower corners of eyes three parallel lines run toward end of nose. Mouth shown by engraved line. Nostrils shown by curved lines at outer corners of upper jaw and by slight swelling. End of nose covered with irregular punch-marks. On sides of nose one row of marks to show nasal swelling and lower jaw. Length of face, 0.05 m. Geometric influence seen in angular lines of head, eyes, and ornamentation. Modeling and style naturalistic.

Type b. Geometric and Oriental influence.

24. Bull. From Northwest Building, 1894. Legs broken. Solid. Height, 0.033 m. Length, 0.0685 m. Body modeled with skill and fidelity to nature. Knees and hocks indicated. Shoulders indicated by bands running toward middle of back. Hips more successful, though too prominent. Left fore leg ends in swelling, which was probably attached to base. Hind legs perforated lengthwise, just back of and above hock. In left leg the pin remains by which leg was fastened to base or other object. Tail bent under. Dewlap carefully modeled. Head distinguished from neck on top by ridge of horns. Horns 0.021 m. between tips. Between them, in front, engraved² lines. Eyes vertical, made by punched ring. No ears. Nose and mouth carefully modeled. Above end of nose, two engraved lines cross face. Nostrils shown by swelling and on end of nose by slight oblong holes. The eyes and engraving are geometric. Term Oriental is here used for a certain softness of modeling found in figures of animals, especially lions (cf. Nos. 29, 720, 946), which belong to species which began to be employed after Oriental designs had been introduced. Neither technique nor subject is due to that influence.³

Type c. Oriental influence (to be understood as above).

25. Head of ox or cow. Attached figure.⁴ From south slope, southwest corner, 1895. Pre-

servation fair. Solid. From behind seems to be cast in two pieces, but welding so skillful that this does not show in front. Length, 0.052 m. Width, 0.088 m. Height, 0.0525 m. Horns between tips, 0.043 m. Attached to convex surface by triangular plate. Holes for fastening at corners. Around the edges is lead. Short neck, nearly round, but broader in upper part. No dewlap. Head not distinguished from neck, except by horns and nose. From top of forehead, between horns, hangs sort of forelock: height, 0.014 m.; width, 0.0175 m. Horns curl forward and slightly upward. Eyes very conventional, indicated merely by slightly oblong swellings. No mouth or nostrils. No trace of geometric influence. Naturalistic style, but conventionalized for decorative purposes.

Type d. Naturalistic.

26. Cow, uncertain whether originally with base. Found 1892. Preservation poor. Solid. Height, 0.074 m. Length, 0.113 m. The animal was shown as walking. Body, legs, hips, and shoulders rendered with skill and fidelity to nature. Knees shown by carefully modeled swelling. Hocks by modeling. Neck slightly convex on top, full and deep, with carefully modeled dewlap. Horns short, curved out and up. Ridge between horns engraved in front and on top with fine wavy lines. Eyes made with simple punched circle. Over the eyes are swellings of frontal bone, each with two engraved lines in plane of face. Between these, rosette of fine lines radiating irregularly. Nostrils indicated by two slits. Mouth closed. This cow shows entire freedom from conventionality or stylistic influence and is based simply upon study of nature. It is somewhat plainer than No. 27, especially in treatment of neck, and does not show quite the same sureness of technique.

27. Cow, without base. From south slope, 1895. Condition poor. Legs, tail, ears, and horns broken. Solid. Height, 0.111 m. Length, 0.217 m. Body somewhat long, but modeled after nature with care and skill, as seen in treatment of shoulder-blades, hips, and flanks. Knees indicated by swelling; hock by careful modeling. The tail broader at top than bottom. Upper part perhaps engraved. Bag large. Neck high and narrow. Dewlap carefully rendered, with clearly marked folds, reaching on right to

¹ Mr. D. G. Hogarth suggests that the engraving represents ornamental fillets and frontlet for sacrifice.

² As No. 23 (p. 201, note 4).

³ For a somewhat different view, see Bather, *J. H. S. XIII.* (1892-3), p. 232.

⁴ Cf. *Olympia*, No. 877.

line between ear and mouth. On back of neck, irregular marks and indentations, possibly of an inscription. Between horns in front and on top of head, engraving to represent hair. Transition from ridge of horns to face better than in No. 26. The ears were correctly placed. Eyes consist of two curves, the upper larger, its arc passing that of the lower at lower corner of eye. Ball of eye rounded. Length of eye, 0.006 m. Width, 0.005 m. In front of eyes, prominent folds of skin, marked also by two engraved lines. Between eyes, rosette of convex-concave lines radiating from centre. Nostrils and upper lip indicated and with great care. Mouth closed and indicated by line on back side of face as in No. 26. Distinction between head and neck along angle of jaw modeled without any harshness. Mistakes shown in this part of No. 26 avoided. Animal was represented moving, probably walking. Of early part of classical period.

28. Foot of ox or cow. From south slope. Badly oxidized. Solid. Length, 0.047 m. Hoof broad and flat. Probably cloven, though slightly. Above hoof, concave band, running all round. Above this, raised ring around three sides, terminating in low protuberances, higher up on one side of leg than on the other. Probably left leg. Lower part at very low angle, suggesting rearing animal or animal crushed. Work of good period.

5. LIONS.

NATURALISTIC STYLE.

Type a. Oriental influence.

PLATE LXXVI.

29. Lion on base, to which is attached long iron bar. Provenience unknown. Condition fair. Cast hollow and bar inserted. Height, 0.186 m. Length of bar, 0.134 m. Length of figure, 0.035 m. Width of bar at top, 0.0165 m. Thickness, 0.0075 m. Lion seated upright, tail over back. Body simple but correct. Hips prominent. Paws heavy and toes marked. Tail indicated by ridge along back. Breast and neck marked off by heavy modeling of neck along line drawn from front legs over shoulders to tip of tail. No mane. From ears to lower edge of lower jaw is a raised ring; this is flattened below ears and heaviest back of mouth. Ears slightly indicated. Nose and eyes marked off from top of head by raised modeling of latter between ears. Eyes set at upper back side of large sockets, which are wide

¹ For another example of this type, cf. fibula, No. 946.

and deep in front of eyeball. Nose short and thick; no nostrils. Mouth open, showing four teeth at corners. Front and hind legs connected by flat base that hides the insertion of bar. Upper part of base projects over lower, forming sort of cornice. The iron bar much corroded, and shape thereby altered. It seems to have been inserted into some wooden object, such as staff or sceptre. Style in general true to nature but somewhat conventionalized for decorative purposes. Modeling soft; all sharp outlines avoided.¹

Type b. Purely naturalistic conventionalized for decorative purposes.

Pin-head, No. 720, and attached figure, No. 2204.

6. RODENT.

NATURALISTIC STYLE—DECORATIVE.

30. Mouse on human right forearm attached to iron rod. From West Building. Condition fair. Arm cast hollow for insertion of rod. Entire length, 0.114 m. Length of mouse, 0.034 m. Height of mouse, 0.021 m. Mouse crouches on upper side of arm, tail extended toward hand. Body full and rounded. Hind-quarters shown with low modeling. Shoulders scarcely indicated, toes not at all. Head separated from body by low groove. Cheeks full. Ears drawn back over groove in neck shown in low relief, slightly undercut. Eyes round, slightly raised. Mouth indicated. Arm and hand less carefully done; wrist poor. At junction with rod a raised ring circ. 0.004 m. broad, rudely done. Hand closed. Fingers poor, and no nails. Through hand passes round hole in which was once some object held by the hand. Shape of iron rod uncertain, but probably rectangular.

7. FROG.

NATURALISTIC STYLE—DECORATIVE.

31. Provenience unknown. Condition poor. Feet broken and surface abraded. Solid. Length, 0.046 m. Length of tail, 0.009 m. Figure worked only on back and sides, flat below. Body tapers slightly to waist, between which and lower hind legs two wrinkles on each side. These form the hips. No details except engraved² lines diagonally over ends of legs, perhaps to indicate toes. Head flattened from back to front. No mouth. Eyes oblong and raised. Round hole pierced through tail. — Much con-

² Cf. No. 23 (p. 201, note 4).

ventionalized for decorative purpose. Perhaps attached or suspended by hole in tail.¹

8. SERPENTS.

GEOMETRIC INFLUENCE — DECORATIVE.

32. Head attached to bronze tube. Provenience unknown. Condition fair. Hollow. Length, 0.052 m. Diameter of tube inside, 0.0095 m. Head shaped like truncated cone, but top slightly convex. Corners on lower side beveled. Bottom and sides plain. Mouth given by straight line. Eyes of two concentric circles, above which raised lid inclosed by two lines. Top of head engraved with double crescent at back and down centre oblong ornament of two elliptical lines. Space between the parallel lines engraved with oblique strokes, giving rope effect. Midway between eyes and end two crescents open outward, one on each side. They are formed of two lines running to edge of top. Mouth round. Head and tube hollow for passage of water, forming small spout.

33. Serpent, attached. From back of South Building. Preservation good. Length, 0.1215 m. Width, 0.045 m. Body and lower neck plain. Nine lines on upper neck. Head tapers to a rounded point and flattens from back to front. Sides and bottom of head plain. On top, four half-circles, turned outward, two on each side. Each consists of two lines. No indication of mouth. Probably not much of original figure lost, as serpent seems to have been intended to project from behind aegis or part of clothing of statue, e. g. Athena. Technique (hammering) and engraving are geometric, but figure is probably not of geometric period, but of archaic art.

NATURALISTIC STYLE.

Type a. Decorative.

34. Head of serpent. Formerly attached. Provenience unknown. Preservation poor. Length, 0.0265 m. Sides and bottom plain. Ridge along top. Traces of two circles near mouth, one on each side. Probably not meant for eyes. Mouth large and open. Line round inside of lower jaw, probably only fissure in bronze. Hollow. Served as spout.

¹ Cf. Fränkel, 'Geweibter Frosch,' *Jahrb. d. Inst.* I. pp. 50 ff. Somewhat similar is *Brit. Mus. Cat. of Bronzes*, No. 1902.

² For use, cf. *Olympia*, No. 816 a, De Ridder, *Bronzes de l'Acropole*, No. 558. Projecting protome, probably from ring of support of kettle. Cf. also *Brit. Mus.*, Bronze

Type b. Purely naturalistic.

35. Serpent. Provenience unknown. Body broken close to neck. Preservation poor. Solid. Length, 0.04 m. Neck and body plain. Head broad and flat and at back stands out prominently from neck. Eyes prominent, set at forward corners of rectangle of head. Probably formed by single ring, over which rises the puffy eyelid. Mouth open. Line round inner edge of upper jaw. Probably work of archaic or classical period.²

9. BIRDS.

GEOMETRIC STYLE — CONVENTIONALIZED.

I. AQUATIC.

Type a. Geometric.

36. From West Building, 1893. Condition fair. Solid. Height, 0.0525 m. Length, 0.036 m. Body flat, plain underneath. On top slightly rounded. Legs bend slightly forward, are plain, and of uniform size. Neck rises from lower edge of body. At base of neck, hole, for suspension, 0.003 m. in diameter. Head about at right angles with neck. No eyes or mouth. Probably had base, to judge from roughness at end of left foot.³

37. Bird on standard. Probably originally on base. From below Cyclopean wall and above Stoa. Preservation poor. Legs and standard broken. Head and tail damaged. Solid. Height, 0.036 m. Length, 0.034 m. Adjoining legs, but separate, a round standard. It is placed between legs, slightly forward, and comes through to upper side of back, where it is raised slightly above surface. Legs straight and round. Neck somewhat elliptical. Probably had no eyes.

38. Bird on standard. Probably ornamental stud or nail, but possibly attached to base. Uncleaned. Preservation bad, and badly oxidized. Solid. Height, 0.036 m. Length, 0.027 m. Height of standard, 0.0195 m. Round body, like nail-head, with narrow extension at back, which may be either body or tail. Eyes marked by two pointed projections. From eyes, head sharpens to point, in three planes on upper side and one convex plane below. No decorations. Shape of neck and addition of eyes mark this as more advanced than preceding number.

Room, Centre Cases C.: circular bronze dish; on handles male and female figures reclining; four serpents attached beneath rim, with heads projecting over rim toward inside. Castellani (1562).

³ For style (flat wide tail and beak, and long legs), cf. *Olympia*, No. 210, with base.

39. Complex of two birds, attached to base. Found in bank, east of chambers (III), just above poros wall, 1894. Preservation fair. Base rough at back as though broken. Solid. Height, 0.036 m. Length, 0.041 m. Length of base, 0.028 m. Width of base, 0.0055 m. So constructed that right legs, which are very large, serve as standards, keeping the poise of whole figure, and left legs and bodies so combined that bodies seem to be a continuous bar attached to short left legs; portions of bar belonging to each, marked by obtuse angle close to right leg of rear bird. In front figure, bar projects nearly to front of right leg. Heads have small projections for eyes. Beaks rounded, slightly thicker than wide. Base rectangular. Has round hole, 0.0123 m. from front end, 0.0019 m. in diameter. Seems like hole for suspension, but slant of figure toward left makes possible to drive nail through from right side.

40. Bird with base. Provenience unknown. Preservation good. Solid. Height, 0.035 m. Length, 0.0325 m. Height from centre of base to centre of body, circ. 0.025 m. Base, 0.013 m. square. Body has hole diagonally through from base of neck to front just above standard. Diameter, 0.0018–0.003 m. Back of body shows two bands of two lines each, on top and sides. Base of head, similar band of two lines. Tail fan-shaped; nicked along back edge. Head flat but slightly rounded. No eyes or other details. Standard ornamented with three raised rings just beneath body. Below these, rounded swelling. Line of top of base projects slightly, forming ridge, and on bottom is indented square, circ. 0.007 m. on a side. Outside this, another square. Space inside smaller square sunk more deeply than space between squares. First example so far with ornamentation, though form is very primitive or conventionalized.¹

41. Bird on standard, probably originally with base, similar to No. 40. Provenience unknown. Badly preserved. Solid. Height, 0.032 m. Length, 0.024 m. Body shows no details, but seems to have had three lines at top of neck. Similar ornament perhaps, at base of tail. Hole in neck, similar to preceding. Standard has narrow swelling immediately beneath body, followed by a wide, full band. Probably belongs with preceding, though shape of head may have been different.

¹ Cf. *Olympia*, No. 418.

PLATE LXXVII.

42. Bird with base, which is circular and perforated. Provenience unknown. Preservation fair. Solid. Height above base, 0.04 m. Diameter of base, 0.028 m. Hole in neck of bird. Diameter, 0.0045 m. Body has prominent breast, but short back. Eyes prominent. Bill long and clearly marked. Standard nearly round. Base flat on top, but slightly hollowed below, leaving uneven rim around the edge. Neck, eyes, head, and bill the most advanced so far. In these points and in short body resembles No. 38, in which, however, body has different shape.²

43. Bird with standard, resting on perforated circular base. Provenience unknown. Preservation fair. Base less well preserved. Solid. Height, 0.04 m. Length, 0.042 m. Length from neck to end of tail, 0.0265 m. Diameter of base, 0.035 m. Diameter of hole in body, circ. 0.004 m. Prominent breastbone. Body tapers above and below toward tail. Standard circular, swelling where it joins base, which is plain on top, and below, the rim taking form of a roll.

Type b. Naturalistic influence.

44. Duck. From cutting at east end of Upper Temple, toward the tents. Preservation fair. Cast hollow. Height, 0.019 m. Length, 0.045 m. Body rounded, of natural shape. Wings indicated by line down back, from upper end of which, 0.05 m. from base of neck, are drawn lines to show curve of wings. Curve of neck slightly stiff and too small. Eyes almond-shaped, slightly convex, surrounded by engraved line. Bill rather flat. Inside, partially filled with some dark substance, uncertain whether core or dirt. Behind hole in breast are shown the flippers. No certain mark of attachment below, though less carefully finished. Work of considerable skill. While more naturalistic than geometric, belongs to a period before naturalism became a style.

II. LAND-BIRDS, CHIEFLY COCKS.

Type a. Purely geometric.

45. Body of bird. Solid. Provenience unknown. Badly preserved. Head, neck, legs, and tail broken. Solid. Height, 0.014 m. Length, 0.0425 m. Tail spade-shaped. Resembles more a peacock with folded tail. More primitive than No. 46, as shown by rectangular lines of body and neck.

46. Cock. Provenience unknown. Preserva-

² With this and No. 43, cf. *Olympia*, No. 210 b, which has round perforated base and is also similar in style.

tion poor. Solid. Had no legs, but possibly standard, through vertical hole in body. Height, 0.023 m. Length, 0.039 m. Diameter of hole, on top, 0.003 m. Neck deeper than wide. On both sides of comb, circle inclosing dot. At base of comb, two parallel lines. Eyes uncertain, but probably given. Each side of tail has two circles surrounding dots.¹ At base of tail, four lines of engraving on each side. Neck better than No. 47, but body less good. Probably had no standard, but was a pendant.

47. Cock. Provenience unknown. Preservation poor. Ring or contrivance on back broken. Large irregular hole in left side of body, showing inside to be hollow. Height, 0.055 m. Length, 0.0995 m. Height of body and knot on back, 0.026 m. On top of body, vertical hole, 0.002 m. in diameter, through to interior. In middle of back, piece of uncertain purpose, perhaps part of suspension ring. Legs about 0.008 m. long. Bottom slightly concave. Body rises at either end in two spouts toward neck and tail. Not certain whether hollow entire length. On inside, reed or tongue-like strip of metal, 0.0035 m. wide, and 0.0004 m. thick, projects from about centre of right side horizontally across body. At base of tail, two raised rings. Length of tail, 0.032 m. Ornamented on each side with five sets of concentric circles, three of which are larger, and consist of small round hole, surrounded by two circles, the outer fainter than the inner. Above these, a dot surrounded by circles. Upper circles are fainter than lower. At upper end of neck, two raised rings. Eyes raised. Beak round and tapers to point. Convex above, concave below. On each side of comb, dot inclosed by two circles, as on tail. Between these and top of comb, on each side, five dots each in circle.

Type b. Naturalistic influences.

48. Cock. Provenience unknown. Condition rather poor. Probably hollow, as it seems too light for solid mass. Height, 0.0445 m. Length, 0.0472 m. Body rounded, broad across bottom, pot-shaped. On back, sort of dowel, which seems to have terminated in an eye, now broken. It seems to have been let into the body, not cast with it. On right side of body two dots, each surrounded by circle. Same on left, where between circles is pierced hole. On lower part of breast, to right and left of

legs, two similar dots and circles. At rear end of body, in centre, a similar dot and circle. Straight legs attached to outer corners of body. Bottom of feet slightly concave. Lines on outer side of legs. Two lines on back end of body on right side, run from circle toward base of tail. Similar on left side. Round base of tail on body, four lines, discernible on right; faint traces on left. Tail semicircular. Each side has three dots inclosed by circles. Lines from base of neck run diagonally, three from one side and two from the other, joining on centre of breast. Beneath these another line on each side. Top of neck on right side has traces of three lines. Eyes round projections. Not certain whether originally had comb. Body and legs show advance over No. 47 in naturalism. Neck, head, and tail as good. Ornamentation rather more elaborate.

NATURALISTIC STYLE.

Type a. Geometric influence.

49. Tail of bird. Provenience unknown. Preservation fair. Solid. Extreme length, 0.053 m. Width, 0.052–0.089 m. Thickness, 0.004–0.0065 m. Upper side slightly convex in both directions. At end, nine scallops. Perforated near centre, toward base. Upper side engraved with two lines of feathers, ending in before-mentioned scallops. Engraver worked from left to right, as shown by miscalculation for commencement of dividing line between feathers of back row. Each feather divided by quill; sides engraved with slanting lines. Geometric influence in stiff angularity in form and decoration.

Type b. Naturalistic.

PLATE LXXVIII.

50. Head and neck, probably of swan. Provenience unknown. Preservation fair. Solid, except for depth of 0.022 m. from lower end. Height, 0.098 m. Length, 0.092 m. Circumference of neck at base, 0.096 m. Neck without ornamentation. Head differentiated plastically from neck. Sides of head concave in region of eyes. Eyebrow projects sharply. Top of head somewhat concave, especially between eyes, and narrows rapidly from back to front. Eyes, in clearly marked sockets, consist of elliptical ring rising from bed of socket. Inside ring, prominent eyeball. Projecting corners of head above

¹ Owing to frequency of this decorative motive in early Greek and other arts, it would form here, as well as in

Nos. 47, 48, an unsafe basis for identification with peacock. Cf. Hehn, *Kulturpflanzen und Haustierte*, pp. 342 ff.

eyes distinguished as eyebrows plastically and by engraving. Fleshy parts of head separated from bill, on under side, by depression of plane for the bill and slight change in direction. On sides of head, distinction is made by a band, separated from behind by engraved line and in front by a difference of plane. Feathers on head indicated by engraving. Toward back they are fainter than in front. They are not perfectly regular in shape, size, or arrangement. Bill is modeled with care. Upper and lower mandibles separated by sharply marked groove. Nostrils suggested by bulge. On lower half of

upper surface of bill, on each side, are two or three very shallow, slightly diagonal grooves. Work of severe style, of much skill and care; probably late archaic or transitional, possibly of early classical period.

PLATE LXXVII.

51. Feather of bird. From West Building. Preservation fair. Solid. Length, 0.074 m. Back and sides plain. Divided into three divisions, which taper to tip, two outer divisions sloping slightly inward. Three divisions covered by cross-lines. Belongs probably to archaic period.

IV. ORNAMENT AND TOILET

1. PINS.

A. STRAIGHT.

Type a. Simple, plain head.

Pins of this type sometimes difficult to distinguish from ends of spits. Head and body one piece of metal.¹

FORM 1. BODY ROUND THROUGHOUT.

HEAD A SIMPLE KNOB.

PLATE LXXVIII.

52. Provenience unknown. Preservation fair. Length, 0.0838 m. Head oblate. Sides roughly rounded. Head separated from body by shallow groove. Point dull.²

FORM 2. BODY RECTANGULAR IN UPPER PART, ROUND BELOW. HEAD SIMPLE ANGULAR KNOB.³

Class a. Undecorated body.

53. Well preserved. Length (as bent), 0.08 m. Round part begins 0.005 m. from point, which is dull. Neck slightly pinched in.

54. Point broken. Length, 0.111 m. Round part begins 0.09 m. from head. Head flat on top, perhaps broken. Neck sharply pinched in.

55. Poor. Broken and oxidized. Length, 0.06 m.

56. Poor. Broken and oxidized. Length, 0.185 m. Head pointed at top.

57-61. Heads blunt. All are poor, being broken and oxidized. Length, resp. 0.235, 0.142, 0.141, 0.18, 0.232 m.

¹ The simple-headed pins from Troy, No. 4339, Athens Mus., Schmidt, *Schliemann's Sammlung Trojan. Altertümer*, Nos. 6262 ff., are not exact parallels to this type, but are, for the most part, ruder and more primitive.

² Cf. Schmidt, *op. cit.* No. 6266.

Class β. Rectangular part of body decorated.

62. Point gone; upper part oxidized. Length, 0.123 m. Decorated probably with zigzag on all four sides.

63-66. Similar to No. **62**. Lengths, 0.116 m.; 0.222 m.; 0.06 m.; 0.0915 m. No. **63** from back of South Building, No. **66** from West Building.

67. Point gone. Oxidized. Length, 0.22 m. Rounds circ. 0.037 m. from head. Transition plain and abrupt. On all four sides decorated with zigzag.

68. Point gone. Oxidized. Length, 0.083 m. Rounds gradually circ. 0.043 m. from head. Collar at top of body. Broad zigzag on all four sides.

69. Point gone. Oxidized. Length, 0.099 m. Rounds gradually. Zigzag on all four sides. Collar as in No. **68**.

70. Point gone. Oxidized. Length, 0.104 m. Rounds abruptly. Zigzag on all four sides. Collar as in No. **68**, color medium.

71. Point gone. Much oxidized. Length, 0.068 m. Rounds abruptly at 0.029 m. from head. Zigzag on all four sides. Small collar.

Class γ. Rectangular and round part of body decorated.

72. Point dull. Condition fair. Length, 0.168 m. Rounds at 0.117 m. from head. Traces of zigzag on upper part on all four sides; round part engraved to represent broadly threaded surface; the threads break irregularly.

³ With this form compare an Italic type with round shaft ornamented with two rings near head; Montelius, *Civ. Prim. It.* pl. 42, 7 (col. 229), from Moneneco near Como. For heads, cf. Schmidt, *op. cit.* Nos. 6321 ff., and note 1 above.

73-86. Fragments resembling No. 72.¹

FORM 3. HEAD WITH ORNAMENTAL CONTINUATION ABOVE KNOB. EXAMPLES UNCERTAIN.

87. End broken. Oxidized. Length, 0.104 m. Rounds abruptly at 0.03 m. from neck. Zigzag on rectangular part. At transition to round part, three fine lines. Collar at neck. From head rises short point like end of wire; if due to corrosion, probably not a pin.

88. Broken and oxidized. Length, circ. 0.023 m. Rectangular body with collar. Uncertain whether ornamented. Above head, tapering blunt stub, as in No. 87.

89. Broken near head. Oxidized. Length, circ. 0.038 m. Body round, with collar. Not decorated. Head oblong spheroid. Small stub of uncertain character above.

FORM 4. KNOB REDUCED TO THICK DISK, WITH COLLAR ABOVE AND BELOW.

90. End broken. Oxidized. Length, 0.0545 m. Above and below head, collar. Above upper collar, short rounded stub.

91. Similar to No. 90. Length, 0.147 m.

FORM 5. HEAD TRUNCATED CONE. BODY CORRUGATED IN UPPER PART. HEAD CONICAL.

92. End gone. Much corroded. Length, 0.0455 m. Top of head uneven. Sides concave. Body has four corrugations of different sizes in upper part.

93. Uncleaned. Length, 0.076 m. Head a low cone. Beneath head, two corrugations.

FORM 6. WIDE, FLAT HEAD.

94. From south slope. Somewhat oxidized. Length, 0.09 m. Head slightly concave. On inside line of engraving from bottom upward.

Type b. Flat head, corrugated or beaded body. Head small and rather thick. Usually appreciably larger than body. Sometimes not. Some possibly headless.²

FORM 1. TWO BEADS.

95. Head probably gone. Otherwise condition fair. Length, 0.1095 m. Below beads, rectangular block surmounted by low collar. Point sharp. Filed; color medium.

FORM 2. THREE BEADS.

Class a. Headless, by accident or design.

96. Point gone. Corroded. Length, 0.527 m. Filed; color medium.³

97. From back of South Building. Length, 0.10. Commencement of body rectangular. Point sharp. Filed; color medium.

98. End gone. Much corroded. Length, 0.0475 m. Top uneven. Sharply defined rectangular block with heavy collar. Filed; color slightly reddish.

Class β. With heads.

99. Point gone. Oxidized. Length, 0.114 m. Body round from start. Color light. Head has form of half corrugation.

100. End gone. Corroded. Length, 0.047 m. Diameter of head, 0.0069 m. Color medium, with trace of red.

FORM 3. FOUR BEADS.

Class a. Without heads.

101. End gone. Length, 0.058 m. Clearly marked rectangular block.

102. End gone. Somewhat corroded. Length, 0.045 m. Upper bead complete. Sharply defined rectangular block with collar.

Class β. With heads.

103. Head mostly destroyed. Length, 0.113 m. First corrugation slight, with long neck above. Clearly marked rectangular block with collar.

104. Much corroded. Length, 0.0265 m.

105. End gone. Oxidized. Length, 0.0805 m. Diameter of head, 0.008 m. Beads uneven in size.

106. Oxidized. Length, 0.064 m. Diameter of head, 0.007 m. Color medium.

107. From south slope. End gone. Somewhat oxidized. Length, 0.076 m. Diameter of head, 0.0085 m.

108. Corroded. Broken. Length, 0.048 m. Diameter of head, 0.008 m.

109. From south slope. Broken. Length, 0.036 m. Diameter of head, 0.0085 m.

110. From cutting east of Upper Temple toward tents. Broken. Length, 0.048 m. Diameter of head, 0.0085 m.

111. Broken. Length, 0.0415 m. Diameter of head, 0.0085 m. Edge of head grooved.

¹ No. 73 from upper terrace toward tents; Nos. 75 and 86 from south slope.

² Cf. headless ivory pins from Mycenae (outside of tombs), with corrugations, No. 2565, and from Tiryns, No. 1646; also from Troy, No. 4413. Those under No.

1060 (outside of tombs) have three to six corrugations. All in National Mus. at Athens.

³ Cf. somewhat similar pin, Montelius, *Civ. Prim. It.* col. 177, pl. 32, fig. 5. The Italian specimen has no block, but appears to have slight ornamentation of shaft; Bronze Age.

112. From south slope. Broken. Much corroded. Length, 0.045 m. Head small.

FORM 4. FIVE BEADS.

Class a. Headless, probably by accident.

113. From south slope. Broken. Oxidized. Length, 0.074 m.

114. Broken. Oxidized. Length, 0.0245 m. Transition to shaft rectangular.

115. Broken. Oxidized. Length, 0.0565 m. Transition as in No. 114.

Class β. With heads.

116. From south slope. Corroded. Length, 0.068 m. Long neck. Body rectangular at beginning.

117. Corroded. Length, 0.08 m. Upper part of body rectangular.

118-120. Fragments of similar pins. No. 120 from south slope.

121. Length, 0.11 m. Diameter of head, 0.006 m.

122-132. Similar. Nos. 123, 125 from south slope. Lengths, 0.0487-0.117 m. Diameter of heads, 0.0065-0.0095 m.

133. Fragment. Beneath lowest bead, three narrow rings.

134. Fragment. At transition to body, block, above which narrow grooved collar.

135. From West Building. Fragment. Head grooved. Block with grooved collar, as in No. 134.

136. Fragment. From south slope. Length, 0.04 m. Doubtful whether collar should be classed as one or two separate beads.

FORM 5. SIX BEADS.

Class a. Headless, by accident.

137-139. Fragments. Rectangular block at transition to body, surmounted in Nos. 138, 139 by heavy collar.

Class β. With heads.

140. Point injured. Length, 0.094 m. Diameter of head, 0.005 m.

141. Length, 0.1035 m. Diameter of head, 0.006 m.

142-149. Fragments. Nos. 142, 149 from south slope. Diameter of heads, 0.007-0.01 m.

150. End gone. Oxidized. Length, 0.07 m. Diameter of head, 0.008 m.

151. Broken. Oxidized. Length, 0.044 m. Diameter of head, 0.012 m. Beneath corrugation, rectangular block, on which five engraved lines, and sixth separating block from round part of body.

152. Point gone. Corroded. Length, 0.147 m. Diameter of head, 0.012 m. Above rectangular block, grooved collar. On one side of block, engraved cross. Head grooved.

FORM 6. SEVEN BEADS.

Solid body.¹

153-156. Fragments. No. 153 from West Building. Diameter of heads, 0.003-0.01 m.

157. Point gone. Oxidized. Length, 0.09 m. Head grooved. Diameter, 0.0085 m.

158. End gone. Length, 0.082 m. Rectangular block.

159. From south slope. End gone. Corroded. Length, 0.0602 m. Head grooved. Diameter, 0.009 m.

Separable body. Head, beads and rectangular block beneath. Round part inserted into hole in bottom of block.

160. Fragment. Pin gone. Length, 0.03 m. Diameter of head, 0.01; grooved.

161. Fragment. Pin gone. Length, 0.0275 m. Diameter of head, 0.007. Collar above block.

162. Pin gone. Corroded. Length, 0.03 m. Diameter of head, 0.0125. Rectangular block with diagonal cross engraved on each side. Above and below block, heavy collar.

FORM 7. EIGHT BEADS.

Class a. Headless, by accident and design.

Solid body.

163. From West Building. End gone. Oxidized. Length, 0.076 m. Rectangular block with diagonal cross on each side.

Separable body.

164. From West Building. Pin mainly gone. Length, 0.054 m. Cross on top. Rectangular block. Each side ornamented with three circles, having dot in centre. Pin of iron.

Class β. With heads.

Solid body.

165. Fragment. Length, 0.0375 m. Diameter of head, 0.0095 m.

166. End gone. Oxidized. Length, 0.092 m. Diameter of head, 0.0075 m. On top, cross from side to side.

167. Fragment. Oxidized. Length, 0.057 m. Diameter of head, 0.009 m. Beginning of body rectangular. Head grooved. Top ornamented with dots in circles, probably five, though only four show.

Separable body.

168. From back of South Building. Pin gone. Oxidized. Length, 0.034 m. Diam-

¹ Cf. pin from Mycenae (outside of shaft-graves) in Athens Mus., No. 4546.

eter of head, 0.01 m. Rectangular block with round hole. Above block, grooved collar.

169. From West Building. Similar to No.

168. Length, 0.034 m. Diameter of head, 0.012 m. Head grooved. Cross on head. Rectangular block, above which grooved collar.

FORM 8. NINE BEADS.

170. Point gone. Oxidized. Length, 0.118 m. Diameter of head, 0.011 m.

171. Fragment. Length, 0.047 m. Diameter of head, 0.0085 m. Head seems to have had ornament like No. 167.

172. Pin broken. Oxidized. Length, 0.065 m. Diameter of head, 0.007 m. Beginning of pin rectangular. Sides with engraved lines. On top of head, two dotted circles.

FORM 9. TEN BEADS.

Class a. Headless, by accident.

Separable body.

173. Fragment. Length, 0.0445 m. Rectangular block with double collar. In bottom hole, 0.002 m. in diameter. Pin probably of iron. Traces of engraving on block.

Class b. With heads.

Separable body.

174. Pin gone. Corroded. Length, 0.062 m. Diameter of head, 0.0115 m. Large cross on top of head. Pin was riveted into slit in block. In slit traces of iron pin remain. On two sides of block, cross.

FORM 10. ELEVEN BEADS.

Solid body.

175. Pin gone. Oxidized. Length, 0.077 m. Diameter of head, 0.014 m. Rectangular block with collar, sharply distinguished from pin. In centre of head, dot in circle. On each side of block, three dots in circles, one above the other.

Separable body.

176. Fragment. From West Building. Length, 0.0575 m.

177. Pin gone. Oxidized. Length, 0.06 m. Diameter of head, 0.011 m. Slit block with riveted pin. In slit traces of bronze pin.

FORM 11. FOURTEEN BEADS.

178. From West Building. Pin broken at block. Length, 0.067 m. Diameter of head, 0.0105 m. On each side of block, dot in circle.

179. Fragment. Length, 0.034 m.

FORM 12. FIFTEEN BEADS.

180. Fragment. Length, 0.0385 m.

FORM 13. SEVENTEEN BEADS.

181. Fragment. Length, 0.055 m.

FORM 14. TWENTY BEADS.

182. Fragment. Length, 0.0605 m. Slit block surmounted by low collar.

FORM 15. TWENTY-TWO BEADS.

183. Fragment. Pin gone. Corroded. Length, 0.083 m. Rectangular block with double grooved collar. In bottom hole, 0.0032 m. in diameter. On sides, cross. On three sides, dot in circle between upper limbs of cross. Traces of dot in circle between lower limbs of cross on one side.

FORM 16. TWENTY-SIX BEADS.

Head double. Upper part as usual.

Lower part a large truncated cone.

184.¹ Eight beads. Head similar to that of No. 184 a. Rectangular block with double collar. Inserted iron pin.

PLATE LXXIX.

184 a. From West Building. Corroded. Length, 0.127 m. Head consists of truncated cone, with round lower edges, surmounted by low inverted truncated cone. Top has ten-barred cross. Block slit entire length, with rivet holes in lower part. Pin of iron, as remaining portion shows. Cross carved on two sides of block.

Addenda. The following probably accidentally headless pins could not be arranged under the above forms, because of danger of fallacious conclusions respecting introduction of ornament.

Solid body.

185. Fragment. Length, 0.105 m. Rectangular block, on all four sides of which cross.

186. Fragment. Length, 0.0475 m. Rectangular block with heavy grooved collar. All four sides have cross.

187. Fragment. Length, 0.051 m. Short rectangular block with deep cross on each side.

188, 189. Fragments. No. 189 has on sides of block dots inclosed in double circles.

190. Oxidized. Length, 0.19 m. Rectangular block with double grooved collar. On sides of block, cross in circle. On pin next to block, six grooves.

Separable bodies.

191. Fragment. From south slope. Grooved block. Dots in circle.

192, 193. Fragments. Grooved blocks with traces of engraving.

194. From first chamber at east end of Lower Terrace, 1893. Slit block with remains of iron pin.

¹ Inserted here inconsistently because of similarity to No. 184 a.

Uncertain object.

195. Pin or end of spit. Uncertain whether complete.

Thirty-three fragments discarded.

PLATE CXXXVII.

195 a. Fragment. From south slope. Length, 0.0375 m.

Type c. Pins with large, flat, thin head and corrugated or beaded upper part of body.

FORM 1. SOLID STEM AND PIN. HEAD SOMETIMES ATTACHED TO STEM.

Class α. Two corrugations.

196. Fragment. Length, 0.074 m. Diameter of head, 0.0125 m.

PLATE LXXIX.

197. From West Building. Point gone. Head damaged. Length, 0.052 m. Diameter of head, 0.018 m. Beginning of body rectangular.

198. Length, 0.116 m. Diameter of head, 0.013 m. Corrugations slight. Underneath, about seven fine grooves very close together.

Class β. Three corrugations.

199. Head about two thirds gone. Length, 0.12 m.

Class γ. Four corrugations.

200. Fragment. From south slope. Length, 0.053 m. Diameter of head, 0.014 m.

201. Fragment. Length, 0.083 m. Diameter of head, 0.0095 m.

202. Fragment. Length, 0.0375 m. Diameter of head, 0.0085 m.

203. Fragment. From south slope. Length, 0.05 m.

204. Fragment. Length, 0.0565 m.

205. Fragment. From above east end of Stoa, under Cyclopean wall, 1893. Length, circ. 0.09 m. Diameter of head, 0.0125 m. Block-like beginning of body.

206. Fragment. Length, 0.087 m. Body begins as in No. **205**.

207. Fragment. From south slope. Length, 0.027 m. Diameter of head, 0.0125 m. Short rough block.

208. Fragment. Length, 0.0725 m. Diameter of head, 0.013 m. Short rectangular block.

209. Fragment. From south slope. Length, 0.065 m. Diameter of head, 0.015 m. Rectangular block.

210. Fragment. Length, 0.046 m. Diameter of head, 0.014 m. Rectangular block.

211. Fragment. From south slope. Length, 0.104 m. Diameter of head, 0.012 m. Rectangular block.

212–215. Fragments. Diameter of heads, 0.009–0.0115 m. Rectangular blocks.

216. Fragment. From south slope. Length, 0.065 m. Diameter of head, 0.013 m. Rectangular block.

217. Fragment. From West Building. Length, 0.054 m. Diameter of head, 0.012 m. Rectangular block.

218–220. Fragments. Diameter of heads, 0.012, 0.013 m. Rectangular blocks.

221. Fragment. Length, 0.021 m. Rectangular block.

222. Fragment. From south slope. Length, 0.018 m. Diameter of head, 0.0125 m. Slight rectangular block.

223. Fragment. Diameter of head, 0.01 m. Rectangular block.

224, 225. Fragments. From south slope. Diameter of heads, 0.015, 0.012 m. Rectangular blocks, that of No. 225 with collar.

226. Fragment. Diameter of head, 0.013 m. Rectangular block with heavy collar.

227. Fragment. From back of South Building. Length, 0.128 m. Diameter of head, 0.016 m. Rectangular block with collar. In centre of top of head slight depression, corresponding to place of attachment. First case in this type where this is plain.

228. Fragment. Diameter of head, 0.0135 m. Rectangular block with overhanging collar.

229. Fragment. From south slope. Length, 0.108 m. Diameter of head, 0.009 m. Sharply cut corrugations on slender stem. Short rectangular block with collar marked off by groove.

230, 231. Fragments. From south slope. Diameter of heads, 0.01, 0.011 m. Blocks as in No. **229**.

232. Fragment. From West Building. Block as in No. **229**.

233. Fragment. From south slope. Block as in Nos. **229** and **228**.

234, 235. Fragments. Diameter of head, 0.009, 0.0115 m. Blocks with collar as in Nos. **229, 233**, respectively.

Class δ. Five corrugations.

236. Point gone. Length, 0.0785 m. Diameter of head, 0.0125 m. Elementary rectangular block.

237–240. Injured and fragmentary. No. **239** from West Building. Diameter of heads, 0.01–0.013 m. Rectangular blocks.

241. From south slope. Length, 0.122 m. Diameter of head, 0.013 m. Short rectangular block.

242-244. Fragments. Diameter of heads, 0.012-0.013 m. Rectangular blocks.

245. Fragment. From south slope. Short heavy rectangular block.

246. Fragment. From back of South Building. Diameter of head, 0.013 m. Short rectangular block.

247-250. Fragments. Diameter of heads, 0.011-0.012 m. Rectangular blocks, which in Nos. 249, 250 have overhanging collar.

251. Fragment. From south slope. Diameter of head, 0.0135 m. Rectangular block.

252. Fragment. Rectangular block with small collar.

253. Fragment. From south slope. Diameter of head, 0.012 m. Block as in No. 252.

254. Length, 0.118 m. Diameter of head, 0.012 m. Rectangular block with small collar.

255. Fragment. From back of South Building. Diameter of head, 0.0135 m. Rectangular block with projecting collar.

256. Point and part of head gone. Length, 0.063 m. Diameter of head, 0.013 m. Block with projecting collar.

257. Fragment. Diameter of head, 0.012 m. Block as in No. 256.

258, 259. Fragments. Diameter of heads, 0.013, 0.011 m. Blocks as in No. 256.

260. Fragment. From back of South Building. Diameter of head, 0.0145 m. Block tapers toward top. Heavy projecting collar.

261. Fragment. Block similar to that of No. 260.

262. Fragment. From south slope. Length, 0.065 m. Diameter of head, 0.013 m. Block as in No. 255. Cross on all four sides. Probably also on head.

263, 264. Fragments. Diameters of heads, 0.015, 0.01 m. Blocks as in No. 255.

265. Fragment. From back of South Building. Diameter of head, 0.012 m. Grooved collar on block.

266. Fragment. Rectangular block, with collar separated by groove.

267. Fragment. End gone. Oxidized. Length, 0.0715 m. Diameter of head, 0.01 m. Rectangular block with projecting grooved collar.

268. Fragment. From south slope. Diameter of head, 0.0105. Block as in No. 267.

269. Fragment. From West Building. Length, 0.0515 m. Rectangular block with grooved collar.

Discarded: one.

Class ε. Six corrugations.

270. Head and point broken. Length, 0.088 m. Diameter of head, 0.02 m. Three lower corrugations small and separated by shallow rings.

271, 272. Fragments. 272 from south slope. Diameter of heads, 0.0075, 0.0115 m.

273. Point blunted. Length, 0.1215 m. Diameter of head, 0.01 m.

274. Length, 0.145 m. Diameter of head (nicked), 0.0125 m. Rectangular block. Corrugations not strung.

275. Condition poor. Point gone. Length, 0.0615 m. Diameter of head, 0.0125 m. Rectangular block. Corrugations sharply defined.

276-278. Fragments. Diameter of heads, 0.0105-0.012 m. Blocks.

279. Point gone. Length, 0.084 m. Diameter of head, 0.012 m. Rectangular block with raised collar.

280. From back of South Building. Fragment. Diameter of head, 0.011 m. Rectangular block separated from pin by groove. Raised collar.

281-285. Fragments. Diameter of heads, 0.009-0.014 m. Rectangular blocks tapering toward raised collar.

286. Fragment from south slope. Diameter of head, 0.011 m. Block as in Nos. 281 ff.

287. Fragment. Diameter of head, 0.017 m. Long rectangular block with raised grooved collar.

288. Fragment from back of South Building. Diameter of head, 0.01 m. Short rectangular block with grooved raised collar.

Class ζ. Seven corrugations.

289. Point and most of head gone. Length, 0.09 m. Rectangular block with collar. Traces of cross on sides of block.

Class η. Eight corrugations.

290. Point gone. Length, 0.0915 m. Diameter of head, 0.011 m. Corrugations elongated with shallow grooves between.

291. Length, 0.127 m. Diameter of head, 0.012 m. Rectangular block, separated from pin by slight groove with raised grooved collar. Possibly traces of cross on sides.

Of this form nine fragments were discarded, including one from south slope.

FORM 2. SEPARABLE PIN. PIN INSERTED IN RECTANGULAR BLOCK, BENEATH CORRUGATIONS. HEAD ATTACHED LIKE RIVET.¹

Inserted pins are later than introduction of rectangular block. No pin-shafts preserved.

Class a. Five corrugations.

292. Head broken. Length, 0.027 m. Diameter of head, 0.014 m. Rectangular block broken at lower end. Has slit instead of hole.

293. Length, 0.027 m. Diameter of head, 0.018 m. Stem shows plainly on top. Block.

294. Fragment from West Building. Slight remains of iron pin. Block.

295. Fragment. Length, 0.0263 m. Diameter of head, 0.0215 m. Rectangular block with small raised grooved collar. In bottom, hole, 0.003 m. across.

296. From south slope. Head mostly gone. Length, 0.03 m. Stem shows above head. Rectangular block with raised grooved collar. Traces of iron pin.

Class β. Six corrugations.

297. Fragment. From south slope. Length, 0.03 m. Rectangular block with slight groove near top. Pin probably of iron.

298. From south slope. Length, 0.031 m. Diameter of head, 0.019 m. Slight trace of stem on top. Rectangular block with slightly grooved collar. Pin of iron.

299. From south slope. Length, 0.029 m. Diameter of head, 0.023 m. Top of head has row of dots inclosed by circles close to edge.

300. Condition poor. Length, 0.032 m. Diameter of head, 0.0195 m. Trace of stem on top. Dots in circles same as in No. 299. Pin probably of iron.

301. Length, 0.029 m. Diameter of head, 0.022 m. No trace of stem. Pin of iron. Dots in circles as above, and one where stem should appear.

Class γ. Seven corrugations.

302. From back of South Building. Length, 0.0365 m. Diameter of head, 0.017 m. No trace of stem on top. Pin probably of iron. Dots in circles on head round edge.

303. From south slope. Length, 0.036 m. Diameter of head, 0.018 m. Rectangular block with slight grooved collar. Pin probably of iron.

304. Length, 0.031 m. Diameter of head,

0.016 m. Dots in circles on head. Rectangular block with raised grooved collar. Pin of iron.

305. Fragment. Length, 0.035 m. Rectangular block with heavy collar. Pin probably of iron.

Class δ. Eight corrugations.

306. Fragment. Length, 0.041 m. Rectangular block with raised collar. Iron pin. Bronze when filed showed reddish.

307. Fragment. Two rows of dots in circles on head.

Class ε. Nine corrugations.

308. Head mostly gone. Length, 0.042 m. Dots in circles on head. Pin probably of iron. Fine groove on block.

309. Length, 0.0465 m. Diameter head, 0.0215 m. No trace of stem on top. Rectangular block with raised collar. Pin probably of iron.

Class ζ. Eleven corrugations.

310. From south slope. Length, 0.039 m. Diameter of head, 0.0125 m. Rectangular block with slightly raised grooved collar. Pin probably of iron.

311. Head mostly gone. Length, 0.054 m. Dots in circles on head. Slight rise at centre of head above stem. Rectangular block with grooved collar, probably ornamented on all sides with dots in circles.

Class η. Fourteen corrugations.

312. Poor condition. Length, 0.0435 m. Diameter of head, 0.0135 m. No certain trace of stem on top. Rectangular block ornamented on all sides with cross; raised grooved collar. Pin probably iron.

Class θ. Sixteen corrugations.

313. Condition poor. Length, 0.04 m. No certain trace of stem on top of head. Dots in circles on edge of head. Rectangular block with raised grooved collar. Pin of iron. Bronze when filed showed medium color.

Of this form four fragments were discarded.

FORM 3. BODY SOLID, WITH ALTERNATE BROAD AND NARROW SWELLINGS. HEAD ATTACHED.

314. Fragment. Length, 0.028 m. Diameter of head, 0.022 m. Stem shows in centre of head.²

Addenda. The following (Nos. **315–317**) are of too uncertain character to treat as a separate small corrugated body from Menidhi, Athens Mus., No. 1928.

¹ With this form cf. pin-head from Lusi, *Jahreshefte*, IV. p. 55, fig. 97 (Reichel and Wilhelm).

² Cf. bronze pin of tack-form with large flat head and

type, inasmuch as the length being unknown, they may be rivets. Not corrugated.¹

315. End gone. Diameter of head, 0.011 m. Stem shows on top of head.

316. End gone. Diameter of head, 0.014 m. Stem projects through head. Body rectangular.

317. Similar to No. **316**. Diameter of head, 0.02 m.

Type d. Pins usually with conical head and solid body, of which upper part is ornamented with threading and bead-like corrugations, or with a disk substituted for a corrugation.

FORM 1. THREADING AND CORRUGATIONS.

Class a. One corrugation.

318. End gone. Length, 0.074 m. Threading faint.

319. Length, 0.117 m. Screw threading.

320. Head partly gone. Length, 0.152 m. Traces of threading between head and corrugation.

Class β. Two corrugations.

321. From south slope. Broken. Length, 0.096 m. Coarse screw-threading between head and first corrugation. Rectangular beginning of pin.

322. End gone. Length, 0.102 m. Screw-threading between head and corrugation. Beginning of pin rectangular.

323. Head and point gone. Length, 0.128 m. Plain, coarse threading between top and first corrugation. Rectangular beginning of pin.

324. Head gone. Length, 0.12 m. Rather fine screw-threading above first corrugation. Rectangular beginning of pin.

325. From West Building. Point broken. Length, 0.073 m. Threading above first corrugation. Beginning of body rectangular.

326. From West Building. End broken. Length, 0.1105 m. Above upper corrugation, fine threading.

327. Point broken. Length, 0.108 m. Screw-threading between head and first corrugation.

328. Point broken. Length, 0.155 m. Coarse screw-threading between head and first corrugation.

329. Point broken. Length, 0.084 m. Fine threading between head and first corrugation.

330. Point broken. Length, 0.198 m. Top of head rounded. Irregular screw-threading between head and lower corrugation.

¹ Cf. flat-headed bronze tacks from Mycenae (outside tombs), Athens Mus., No. 3261.

331. Broken. Length, 0.097 m. Medium irregular screw-threading from head to lower corrugation.

332. Length, 0.208 m. Medium screw-threading beneath head and between corrugations. Above upper and beneath lower corrugations, grooves, forming in each case a small corrugation.

333. Point broken. Length, 0.1865 m. Threading fine from head to lower corrugation. Secondary corrugations as in No. **332**. Beginning of pin rectangular.

Under side of upper corrugation flat.

334. Length, 0.12 m. Head to first corrugation, 0.0155 m. Medium coarse screw-threading between head and first corrugation. Second corrugation smaller than first. Above it small corrugation, as in No. **332**.

335. Both ends broken. Length, 0.104 m. Above first corrugation, coarse plain threading. Second corrugation smaller than first. Beginning of pin rectangular.

Class γ. More than two corrugations.

Group i. Under side of main corrugation flat.

336. Fragment. Length, 0.072 m. Between corrugations, rather fine threading. Beginning of body rectangular.

Group ii. More elaborate.

337. Both ends gone. Length, 0.187 m. From top to second corrugation (reckoning from the top), probably coarse threading. Second and third and third and fourth seem divided by two grooves. Below fourth ring, perhaps originally disk. Between ring and fifth corrugation, a very low corrugation, which probably has groove in middle. Above and below, coarse threading. Below fifth corrugation, clearly marked rectangular block, tapering to pin.²

FORM 2. THREADING AND CORRUGATION; WITH DISK SUBSTITUTED FOR CORRUGATION, USUALLY UPPER ONE.

Class a. Disk and one corrugation.

338. Both ends gone. Length, 0.116 m. Uncertain whether upper part threaded. Disk larger than corrugation. Beginning of pin rectangular.

339. Fragment. Top and most of body gone. Above disk, four small corrugations. Lower one grooved. Beginning of pin rectangular.

340. Both ends gone. Length, 0.10 m. Grooved above disk, forming four small corrugations.

² Of this form, seven were discarded, of which six were of two corrugations and one uncertain.

341. Top and most of body gone. Length, 0.045 m. Above disk, irregular screw and plain threading. Below disk, a narrow, then a longer lower corrugation, followed by two rings. Beginning of pin rectangular.

The following have two or more plain raised surfaces above disk, which in some cases approach character of subordinate corrugations.

342. End gone. Length, 0.07 m. Between head and disk, two low corrugations separated by threading, which continues to head. Below disk, plain space, then low corrugation, then ring. Prominent rectangular beginning of pin.

343. Fragment. Length, 0.062 m. Above disk, stem tapers, and is ornamented with convex plain surfaces and four groups of three rings. Between disk and corrugation, similar surface with rings.

344. End gone. Length, 0.089 m. Raised surface close to collar of disk. Space above divided into three parts, separated by two raised surfaces. Fine threading. Ring above corrugation. Beginning of body rectangular.

PLATE CXXXVII.

345. Ends gone. Length, 0.13 m. Above disk, stem tapers in four raised surfaces, divided by rings. Below disk, plain convex surface between group of three rings. Rectangular beginning of pin, with groove at top.

Class β. Disk and two corrugations beneath.
PLATE LXXIX.

346. End gone. Length, 0.096 m. Head has rounded top. Upper part probably had plain surfaces and rings.

347. Head and most of body gone. Length, 0.042 m. Beneath corrugation, rectangular piece. Above disk, screw-threading. Rings between disk and first corrugation, and between corrugations.

348. Perhaps belongs to *Class γ*. Most of body gone. Length, 0.074 m. Between head and disk, coarse screw-threading. Between corrugations, single low ring.¹

Class γ. Disk and more than two corrugations, of which the one beneath disk is slightly larger.

349. End gone. Length, circ. 0.155 m. Head

¹ Cf. the fragment, *Olympia*, No. 1134 (upside down), said by Furtwängler to be completely preserved.

² Type found at Tiryns (No. 1587), and at Heraeum tomb (No. 3325); Athens Museum. Possible also that *Olympia*, No. 431 b, belongs here (though not stated that head has hole for shaft), rather than to pendants, as Furtwängler takes it. With this type may be compared,

to disk threaded downward from right to left. Beneath corrugations, small ring, then rectangular block, beneath which round body of pin. Space between disk and lowest corrugation plain.

Of this form two were discarded.

Addenda. The following two may be of either form.

350. Fragment. Length, 0.047 m. Head and fourteen corrugations. Bottom filed. Solid. Color medium.

351. From West Building. Lower end broken. Length, 0.054 m. Entire length from head to last corrugation with fine threading.

Six unclassified discards.

Type e. Pins with body similar to preceding (Type d, FORM 1), and oblong rivet-shaped head, usually with conical top. Pin inserted into middle of rivet bar. Ends of heads attached, except perhaps in No. 352.²

Class a. All or part of body preserved.³

Group i. Body has threading and one corrugation.

PLATE LXXX.

352. Head damaged. Length, 0.0988 m. Length of head, 0.013 m. Pin top shows on upper side of head, which has four grooves on each side. Next head, two small threads. Then convex surface, beneath which screw-thread to corrugation. Beneath corrugation, beginning of body rectangular. Here two threads.

353. Possibly belongs under ii. Broken at base of corrugation. Length, 0.019 m. Length of head, 0.0205 m. Top of pin shows. Ends of head convex and rounded. Shaft finely threaded to ends on both sides. Head to corrugation also.

Group ii. Body has threading and two corrugations.

354. Ends of head and of pin gone. Length, 0.059 m. Length of head, 0.028 m. Coarse screw-threading on both sides of head. From head to lower corrugation rather fine irregular screw-threading. Beginning of pin-shaft rectangular.

355. From northeast part of excavation, near Cyclopean wall, 1893. End of pin and head gone. Length, 0.075 m. Length of head,

in general, a silver pin with cyelet above bar, but otherwise similar in shape to simpler Greek forms, from Remedello, prov. of Brescia. (Montelius, *Civ. Prim. It.* p. 196, fig. 13, pl. 36.) Italian specimen one piece.

³ Though degree of preservation is not a proper basis for classification, it is adopted here because corresponding in the main to the material employed, i. e. bronze or iron.

0.0215 m. Pin shows on top of stem of head. Threading of head similar to that of No. 354. Finer between corrugations. Beginning of pin rectangular.

356. Broken at base of second corrugation. Head ends injured. Length, 0.037 m. Length of head, 0.0275 m. Stem shows on top. Ends of head hollow, thin, and originally quite large. Space circ. 0.005 m. each side of centre has screw-threading from right to left. Between head and second corrugation, slightly finer threading from right to left.

Class β. Head only preserved.

Group i. Stem threaded; with break in threading at centre.

357 [on PLATE wrongly numbered 367]. Length, 0.019 m. Ends rounded. Screw threaded. Diameter of pinhole, 0.0015 m. Nos. 357 a, b, c, fragments; latter two from south slope. Form series leading to conical ends in No. 358.

358. Both ends injured. Length, 0.025 m. More damaged end seems to show the construction, the conical end of stem being covered with thin conical cap. Medium fine threading.

359. From back of South Building. Ends injured. Length, 0.027 m. Fragment remains of pin, probably of iron.

360. From cutting above Upper Temple toward tents. Ends injured. Length, 0.025 m. Medium screw-threading. Fragment of probable iron pin.

361. Condition poor. Length, 0.0265 m. Medium screw-threading.

362. Ends much injured. Length, 0.027 m. Medium threading.

363. Ends injured. Length, 0.0285 m. Character of threading uncertain.

364. Corroded. Length, 0.034 m. Stem with three grooves on one side and six on other. Coarse screw-threading. Remains of pin, probably iron.

365. Corroded. Length, 0.0335 m. Traces of fine threading of uncertain character.

366. From south slope. Much corroded. Length, 0.0315 m. Threading coarse, and of uncertain character.

367. From cutting above Upper Temple toward tents. Much corroded. Length, 0.039 m. Coarse screw-threading. Remains of iron pin.

368. From south slope. Much corroded. Length, 0.036 m. Threading rather fine.

369. From northeast corner between Cyclopean wall and Stoa, 1893. Much corroded.

Length, 0.0405 m. Ends solid, one larger than the other. Slight traces of fine threading. Remains of iron pin.

370. Ends gone. Length, 0.041 m. Medium threading.

Group ii. Stem threaded. Ends ornamented with grooves.

371. From northeast corner below Cyclopean wall, 1893. Condition poor. Length, 0.026 m. Line engraved on each end. Medium threading from right to left. Remains of pin, probably iron.

372. Length, 0.0325 m. Ends solid; diameter, 0.021 m. Groove on each head. Fine screw-threading.

373. Injured. Length, 0.038 m. Groove on each end. Remains of iron pin.

374. Poor condition. Length, 0.0465 m. Three grooves on ends. At either side of pinhole, fine screw-threading. Remains of iron pin.

375. Poor condition. Length, 0.042 m. Four grooves on one end, and three now visible on other; probably had four. Remains of bronze pin. Medium fine threading.

376. Poor condition. Length, 0.05 m. On each end six grooves. Medium fine threading of uncertain character on shaft.

377. Poor condition. Length, 0.051 m. Traces of grooves on end. Fine threading of uncertain character on shaft. Pin probably bronze.

378. Poor condition. Length, 0.055 m. Three grooves on ends. Medium threading of uncertain character on shaft. Pin probably iron.

One was discarded from each of the above groups.

Group iii. Ends round and thick at edge. Body tends to rectangular form.

379. Much corroded. Length, 0.024 m. Diameter of ends, 0.012 m. Stem seems inset into ends. Pin iron. This pin is between type of Nos. 357 and 380, but closer to No. 357.

380. Poor condition. One head gone. Length, 0.029 m. Thickness of ends, 0.006 m. Threading not certain.

381. From West Building. Much corroded. Length, 0.032 m. Diameter of ends, 0.013 m. Stem rectangular, with rounded sides. Traces of threading.

Class γ. Miscellaneous.

382. From south slope. Length, 0.031 m. Diameter of ends, 0.019 m. Stem rectangular, with one side broader than the other. Metal dark reddish brown, probably copper.

383. From West Building. See No. 2217.

Of this *Class γ*, one was discarded.

Type f. Pins often with separable heads.

Heads flat, and upper part of body compound, consisting of one main corrugation, flanked on each side, but especially below, by narrow bands and rings, which develop into one or more subordinate corrugations.¹

FORM 1. UPPER PART OF BODY ELONGATED AND USUALLY WITH LARGE THIN HEAD.²

Class a. No ornament, or simple threading at sides of corrugation. Body solid.

384. From south slope. One fourth head and end of point gone. Oxidized. Length, 0.095 m. No ornament. Diameter of head, 0.0085 m.

385. Head nicked. Oxidized. Length, 0.086 m. Diameter of head, 0.0075 m. Above corrugation, groove.

386. Slightly corroded and oxidized. Length, 0.091 m. Diameter of head, 0.006 m. Above corrugation, three small rings. Beginning of pin below corrugation rectangular.

387. Head nicked. Corroded and oxidized. Length, 0.083 m. Diameter of head, 0.008 m. Above corrugation, five small rings separated by irregular grooves only apparently resembling serew.

388. End gone. Somewhat corroded. Oxidized. Length, 0.048 m. Diameter of head, 0.0065 m. Above and below corrugation, low ring or minor corrugation.

Class β. At either side of corrugation, or at least on under side, is rise to sort of ring, falling off abruptly on outside, being beginning of subordinate corrugation.

Group i. No ornamentation at ends or centre.

389. From south slope. End gone. Oxidized. Length, 0.034 m. Diameter of head, 0.0135 m. Stem projects through head cire. 0.001 m. Diameter of stem, 0.0019 m. Round edge a row

of inclosed dots. Beneath corrugations, sort of jacket, 0.003 m. in length, rising toward lower end. Corrugations, jacket, and pin probably one piece.

390. From south slope. Pin mostly gone. Present point not original. Length, 0.031 m. Diameter of head, 0.0125 m. Beneath corrugations, raised grooved ring. Pin stem projects through head, diameter, 0.0019 m.

391. End gone. Slightly oxidized. Length, 0.03 m. Diameter of head, 0.0085 m. Diameter of projecting stem, cire. 0.0008 m. Probably two parts, head and stem.

392. Corroded. Length, 0.052 m. Diameter of head, 0.007 m. Jacket consists of central corrugation, and ring at either side. Probably one piece with pin. Head thin, perhaps separable.

Group ii. Lower or upper ring grooved. Central knob plain.

393. Point blunted. Length, 0.077 m. Diameter of head, 0.0115 m. Beneath knob, grooved ring. Between knob and ring, pin thins to less diameter than it has farther down. Thin head.

394. Bad condition. Length, 0.074 m. No jacket. Beneath knob, high grooved ring. Head thin.

395. Length, 0.065 m. Diameter of head, 0.012 m. Round edge, row of inclosed dots. No jacket. Below knob, grooved ring. Head thin. Two parts, probably.

396. Length, 0.084 m. Diameter of head, 0.009 m. Round edge row of inclosed dots. Edge of head grooved. Above knob, ring; below, grooved ring. Probably two parts.

397. Poor condition. Length, 0.027 m. Diameter of head, 0.0115 m. On top, underent knob intended to represent projecting stem. Beneath knob, grooved ring. Above corrugation, upward increase in diameter of jacket to head.

like this type, especially elementary forms, from lakes Neuchatel and Bienne, in Brit. Mus.

² To this form belongs a silver pin in the British Museum, said to have come from Argolis. *Jahrb.* 1897, *Anz.* p. 196. Inscription *C. I. G. P. I.* No. 508. Added here by kind permission of Dr. A. S. Murray.

PLATE CXXXVII. Condition good. Length, 0.116 m. Similar in shape to pins of *Class γ*, Group vi., but the ring development resembles rather that of Group ix. Bead striated vertically as in FORM 2, *Class η*, No. 511, or *Class θ*, No. 512. Three rings under head, the topmost being largest. Single notched ring at either side of principal bead. Two rings, or rather single ring with accentuated approach at either side of smaller bead. On top of head, and on under side, rosettes. Cf. No. 667.

¹ Cf. bronze pins from Mycenae (outside shaft-graves) with flat head and single ball or swelling (Athena Mus., No. 2558). A more advanced type, of ivory, with two balls and double rings between convex spaces, *ibid.* No. 2608. Bronze pin with flat head with small corrugation, at either side of which grooved or double ring, and simple jacket-effect beneath, from above the palace at Mycenae (Tsonnias, *Ἐφημ. Ἀρχ.* 1887, col. 169, No. 19, *βελόνη χαλκή εὐρηθεῖσα εἰς τὰ ἀνώτερα στρώματα τῶν ἐπὶ τοῦ Μεγάρου ἐρειπίων*, pl. 13). Cf. No. 400. Simple and jacket forms from Tiryns, Athens Mus., No. 1586. The pins from the Dietaeon cave published by Hogarth, *Annual of British School at Athens*, VI. p. 112 resemble those of this type chiefly in the cap. Cf. Nos. 507, 510. Pins somewhat

398. From south slope. Corroded. Length, 0.049 m. Diameter of head, 0.0135 m. Projecting stem. Head and both rings grooved. Inclosed dots round edge of head.

Group iii. Central corrugation has an ornament (plain or grooved ring) at either side. Otherwise similar to Groups i. and ii.

399. Poor condition. Length, 0.06 m. Diameter of head, 0.014 m. Stem projects. Head grooved. Grooved ring below corrugations. On upper side of corrugations, single ring. On lower side, two. Head seems one piece with stem.

400. Condition poor. Length, 0.035 m. Diameter of head, 0.0125 m. Stem projects. Low double ring on both sides of corrugations. Thence on upper side gradual rise to join head. On lower side, rise to grooved ring. On top of head, rosette. Groove on edge of head. Filled; color medium.

401. From south slope. Bad condition. Length, 0.031 m. Diameter of head, 0.02 m. Undercut knob on top representing stem. Head grooved. Corrugation large, with grooved rings at either side. Below, effect of jacket inclosing stem, but probably all of one piece.

402. Bad condition. Length, 0.034 m. Diameter of head, 0.012 m. Two grooves in edge of head. Ring on either side of corrugation. Uncertain whether corrugation and rings are one piece with stem. Head possibly separate, in which case projecting knob goes with it.

403. Bad condition. Length, circ. 0.083 m. Diameter of head, 0.008 m. Stem projects. Edge of head grooved. Ring on either side of corrugation. Stem on both sides of corrugation smaller than beginning of pin. Beneath corrugation, double-grooved ring. Head perhaps separate. Rest of one piece.

404. Length, 0.088 m. Diameter of head, 0.0095 m. Small knob on top of head. Edge of head grooved. On either side of corrugation, grooved ring, of one piece with corrugation. Grooved ring beneath head. Below corrugation, two rings. Lower slightly larger and grooved. Head perhaps separate. Rest perhaps one piece. Waist in stem above and below corrugation.

405. Broken. Length, 0.0635 m. Diameter

of head, 0.0125 m. Grooved. Knob small. Grooved ring on either side of corrugation and joined to it. Beneath head, small swelling. Below corrugation, two rings, upper larger and grooved. Head perhaps separate. Rest of one piece.

406. From south slope. Head broken. Length, 0.0975 m. At top, a disk. Beneath, grooved ring, divided by low ridge around centre.¹

Class γ. Central corrugation ornamented at side. Under head, one or more rings, sometimes thick enough for a subordinate corrugation. Beneath main corrugation, subordinate one, of varying size, flanked by a ring, which may or may not be grooved at either side.

Group i. Much elongated. Two rings under head. Lower corrugation narrow, resembling more prominent ring; flanked at either side by single ring.

407. Condition poor. Length, 0.099 m. Diameter of head, 0.012 m. Edge grooved. Knob on top undercut. Under head, grooved ring. Single ring either side of corrugation. Parts are head with knob, stem, and jacket.

408. Poor condition. Length, 0.0915 m. Diameter of head, 0.0165 m. Thin. Knob undercut. Jacket probably separable. Lower of rings beneath head and ring just above corrugation are ends of same piece of bronze. So also the ring at under side of corrugation and that above lower corrugation ring. Knob goes with head. Remainder looks as though strung separately on stem, but probably one piece, except perhaps head and knob.²

409. Poor condition. Length, 0.104 m. Diameter of head, 0.015 m. No knob. Seems to have same parts as No. 408, but more crowded and probably all of one piece (i. e. all parts of jacket). Lowest ring plain. Filing on broken head showed no lines of separation. Parts probably head, jacket, stem, pin.

Group ii. Elongated jacket; like preceding, but more elaborate, and with more rings under head or about lower corrugation.

410. From south slope. Pin gone. Corroded. Length, 0.028 m. Diameter of head, 0.0135 m. Knob low and undercut. Resembles No. 409,

Mon. Ant. Linc. I. col. 816. This example is similar in style, but has small attached ring at either side of main corrugation and under head.

¹ Probably not like Naue, *Rev. Arch.* XXVII (1895), p. 58, No. 41.

² Cf. pin from Megara Hyblaea, published by Orsi,

but second ring from top and rings on either side of head grooved. Broad secondary corrugation with raised ring in centre and grooved ring on either side. Filing showed color median. Probably all one piece except perhaps head and knob.

411. Broken, condition bad. Length, 0.0715 m. Similar to No. **410**. Pin probably one piece.

412. Poor condition. Length, 0.083 m. Diameter of head, 0.0127 m. Knob small and undercut. Head thin. Similar to Nos. **408-411**, but more elaborate and finished. Jacket divided into six parts. Pin probably one piece.

413. Condition poor. Length, 0.043 m. Diameter of head, 0.023 m. Knob low. Similar to No. **412**. At top of stem, however, three rings. Bead and lower connecting block one piece. Probable that grooved ring at lower end of upper connecting block belongs with it. Certainly belongs with bead. Filing showed core yellow, with redder metal outside. This perhaps due to oxidation. Jacket, except lowest ring, probably one piece, and no separate stem running through. Head thin; knob probably end of stem. Rosette on top of head.

414. Condition poor. Length, 0.067 m. Diameter of head, 0.015 m. Knob undercut. Similar to No. **412**. Divided by slightly deeper grooves into upper connecting block with both rings, bead, lower connecting block with both rings, lower corrugation, grooved ring, plain ring. Pin probably one piece, except perhaps head and knob.

415. Condition poor. Length, 0.055 m. Diameter of head, 0.018 m. Filing showed head and jacket of one piece.

416. Length, 0.074 m. Diameter of head, 0.0125 m. Undercut, low knob. Head grooved on edge. Ring beneath head and at either side of bead vertically notched. A slightly larger similar ring forms lower corrugation. Beneath this, grooved ring, then smaller notched ring. Pin probably solid, except perhaps head and knob. Parts mentioned separated by clearly marked grooves. Lowest ring goes with pin.

Group iii. Central corrugation plain, with ring on each side. Just under head, a single ring. Corrugations plain. Rings small. Lower corrugation usually narrow and with ring on each side.

417. Condition poor. Length, 0.038 m. Diameter of head, 0.0185 m. Knob low; slightly

undercut. Parts separated by shallow grooves. Pin probably one piece, except perhaps head and knob.¹

418. Condition poor. Length, 0.039 m. Diameter of head, 0.023 m. Small knob. Pin of one piece and head as in No. **417**. Possibly, but improbably, from same factory as No. **417**.

419. Length, circ. 0.135 m. Diameter of head, 0.019 m. Knob not undercut, and very possibly genuine stem. Lower corrugation only a heavy ring. Pin and head as No. **417**.

420. Condition poor. Length, 0.037 m. Diameter of head, 0.02 m. Low, undercut knob. Undercut effect perhaps due to hammering. Pin and head as in No. **417**. Very possibly from same factory as No. **419**.

421. From back of South Building. Pin broken. Length, 0.028 m. Diameter of head, 0.0205 m. Knob small and undercut. Similar to No. **420**, except ring above corrugation is grooved. Edge of head grooved. Pin and head as No. **417**.

422. From back of South Building. Length, 0.045 m. Diameter of head, 0.018 m. Similar to No. **421**.

423. Bad condition. Length, 0.024 m. Diameter of head, 0.019 m. Similar to No. **421**. Filing showed medium light color.

424. From south slope. Condition bad. Length, 0.032 m. Diameter of head, 0.023 m. Similar to No. **421**.

425. From south slope. Condition bad. Length, 0.0375 m. Diameter of head, 0.0195 m. Similar to No. **424**, and possibly from same factory.

426. End gone. Length, 0.0485 m. Diameter of head, 0.0205 m. Similar to No. **425**.

427. Pin gone. Length, 0.041 m. Diameter of head, 0.018 m. Upper four rings belong structurally to connecting blocks. Upper ring of each pair the larger. Pin and head as before.

428. End gone. Length, 0.0415 m. Diameter of head, 0.019 m. Top ring largest. Pin and head as before.

Group iv. Similar, but with larger rings, especially at top.

429. Pin gone. Condition bad. Length, 0.025 m. Diameter of head, 0.017 m. Edge of head grooved. Head probably separate and knob part of stem.

430. End gone. Condition poor. Length, 0.065 m. Diameter of head, 0.016 m. Knob

¹ Cf. *Olympia*, No. 482, which is smaller but of same general design.

slightly underent. Row of dotted circles round top of head. Edge grooved. Lowest two rings rope-threaded. Pin and head as in No. 417.

431. End gone. Length, 0.0535 m. Diameter of head, 0.018 m. Rim on top of head slightly raised. Edge has two grooves. Pin and head as in No. 417.

432. Condition poor. End gone. Length, 0.0415 m. Diameter of head, 0.0195 m.

433. Condition poor. End gone. Length, 0.051 m. Diameter of head, 0.0155 m.

434. Pin mostly gone. Length, 0.029 m. Diameter of head, 0.015 m. Edge of head has three grooves. Lowest ring forms top of pin.

435. Condition poor. Length, 0.0355 m. Diameter of head, 0.0175 m. Edge of head grooved. Looks as though the parts were, (1) head, (2) knob, (3) stem and pin with grooved ring, and (4) rings with corrugation, but possibly whole pin of one piece.

436. Pin gone. Length, 0.025 m. Diameter of head, 0.022 m. Edge of head has raised band in centre. Looks separable like No. 435, but probably as in No. 417. Possibly from same factory as No. 435.

437. Condition poor. Length, 0.0285 m. Diameter of head, 0.0125 m. (corroded). Edges of upper four rings had vertical lines. Whole pin probably one piece.

438. Most of head and pin gone. Length, 0.032 m. Diameter of head, 0.003 m. Filing showed color medium. Pin as in No. 437.

439. End gone. Length, 0.058 m. Diameter of head, 0.019 m. Edge of head has two grooves. Pin looks separable, into (1) head, (2) upper pair of rings, (3) lower pair, (4) corrugations, (5) lowest ring, (6) stem, knob, and pin, but probably all one piece.

440. Pin gone. Length, 0.03 m. Diameter of head, 0.0245 m. Edge of head has two bands. Only one ring above upper corrugation. Filing showed iron pin. Color of bronze medium. Head, knob, and jacket probably one piece.

Group v. Ring under head increased in size to nearly that of subordinate corrugation.

PLATE LXXXI.

441. Length, 0.113 m. Diameter of head, 0.018 m. Head thin, outer rim slightly raised on top. Five rings. Top one separated from head by shallow groove. Pin probably one piece.

442. End gone. Length, 0.0855 m. Diameter of head, 0.021 m. Edge of head grooved. Rings at either side of main corrugation grooved. Pin and head as in No. 417.

443. Most of pin gone. Length, 0.037 m. Diameter of head, 0.0235 m. Row of dots near edge on top of head. Edge of head grooved. Corrugations larger than in No. 442, but arrangement similar. Both probably from one factory.

Group vi. Similar to Groups iii. and iv., but with two rings just under head.

444. From south slope. End gone. Length, 0.075 m. Diameter of head, 0.015 m. Raised rim round upper edge of head. Grooved ring beneath head. Below main corrugation, shaft smaller than at beginning of pin. Pin and head as in No. 417.¹

445. Pin gone. Length, 0.024 m. Diameter of head, 0.0185 m. Edge of head grooved. Beneath, two rings, the upper one being the larger. Filing showed color medium light. Pin and head as in No. 417.

446. End gone. Length, 0.045 m. Diameter of head, 0.016 m. Slight rim round top of head. Edge of head grooved. Rings beneath head as in No. 445. Pin and head as in No. 417.

447. End gone. Condition poor. Length, 0.045 m. Diameter of head, 0.016 m. Slight rim on top of head. Two grooves round edge of head. Ring nearest head largest. Pin probably one piece.

448. Point gone. Condition poor. Length, 0.095 m. Diameter of head, 0.014 m. Top ring largest. Lowest ring goes with pin. Head and pin as in No. 417.

449. Condition poor. End gone and most of head. Length, 0.045 m. Rings beneath head as in No. 446. Filing showed color medium light. Whole pin probably one piece.

450. Condition poor. Length, 0.0315 m. Diameter of head, 0.0165 m. Rim round top side of head. Raised band round centre of edge of head. Head and pin as in No. 417. Perhaps from same factory as No. 449.

451. End gone. Length, 0.05 m. Diameter of head, 0.0195 m. Edge grooved. Conical knob. Rim (raised) round edge top side of head. Entire pin probably one piece.

452. End gone. Condition poor. Length, 0.05 m. Diameter of head, 0.0195 m. Traces of groove on edge of head. Pin and head as in No. 417.

¹ Very similar to pin from Lusi, *Jahreshefte*, IV. p. 54, No. 96 (Reichel and Wilhelm).

453. From south slope. End gone. Condition poor. Length, 0.042 m. Diameter of head, 0.0175 m. Knob high and undercut. Edge of head grooved. Pin and head as in No. **417**.

Group vii. Similar to Group vi., but with apparently compound jacket, caused by deeper grooves between the parts; perhaps all from one factory.

454. Most of pin and head gone. Length, 0.029 m. Diameter of head, 0.019 m. Edge of head grooved. Top ring closely attached to head. This pin differs from preceding class only in greater depth of groove. Pin and head as in No. **417**.

455. End gone. Length, 0.049 m. Diameter of head, 0.022 m. Raised rim round top side of head. Raised band round edge of head. Rings similar to No. **454**. First and third from top about equal and larger than others. Lowest three rings smaller than second. Pin and head as in No. **417**.

456. Fragment. Length, 0.02 m. Diameter of head, 0.023 m. Slight raised rim around top of head. Edge of head grooved. Seems separable into (1) head, (2) three rings with connecting parts, (3) corrugation, (4) ring, (5) stem and knob, but probably as in No. **417**.

Group viii. Similar to Group v., but with grooved rings just under head, the upper one being largest. Probably from same factory as Group v.

457. End gone. Length, 0.0685 m. Diameter of head, 0.017 m. All parts separated by slight grooves. Entire pin probably one piece.

458. Pin gone. Length, 0.028 m. Diameter of head, 0.0195 m. Jacket same as No. **457**.

The following have two rings under main corrugation and two at each side of lower corrugation, and are very probably from same factory.

459. End gone. Condition poor. Length, 0.0505 m. Diameter of head, 0.0235 m. Edge of head grooved. Raised rim on upper side. Rings next to corrugation grooved. Pin and head as in No. **417**.

460. End gone. Length, 0.062 m. Diameter of head, 0.021 m. Considerable raised rim on top of head. Edge of head has two grooves.

461. From back of South Building. End gone. Length, 0.0635 m. Diameter of head, 0.0228 m. Raised rim round top of head. Edge of head probably grooved. Head trifle thinner

than those of Nos. **459**, **460**. Top ring larger than in No. **460**.

Group ix. Two or more narrow sharply cut rings just under head, and two similar rings on one or both sides of either or both corrugations.

462. Length, 0.138 m. Diameter of head, 0.015 m. Slight raised rim round head. Edge of head grooved. Above each corrugation, grooved ring. Beneath, plain ring. Pin and head as in No. **417**.

463. End gone. Condition poor. Length, 0.076 m. Diameter of head, 0.02 m. Edge of head grooved. Grooved ring just beneath head. Smaller grooved rings, one at either side of each corrugation. Parts crowded together. Pin and head as in No. **417**.

464. Most of pin gone. Length, 0.027 m. Diameter of head, 0.016 m. Slight raised rim round top of head. Beneath head, four rings, or one ring with three grooves. Grooved ring either side of main corrugation. Plain ring either side of lower corrugation. Whole pin probably one piece.

465. Condition poor. End and most of head gone. Length, 0.0555 m. Grooved ring either side of main corrugation and on upper side lower corrugation. Ring on lower side lower corrugation probably simple. Filing showed color medium light. Whole pin one piece.

Group x. Similar to Groups iii. and iv., but with projecting edge or band about centre of main corrugation.

466. Pin mainly gone and about one fourth of head. Length, 0.034 m. Diameter of head, 0.0235 m. Head thin. Pin and head as in No. **417**.

467. From south slope. Most of pin and lower corrugation gone. Length, 0.044 m. Diameter of head, 0.0219 m. Slight raised rim on head. Edge of head, two grooves. Similar to No. **466**. Possibly from same factory, though heads of different style.

468. Point gone. Length, 0.098 m. Diameter of head, 0.017 m. Slight raised rim round head. Head rather thin. Whole pin probably one piece.

Group xi. Similar to Groups iii., iv., v., but with raised grooved ring about centre of corrugation.

469. From back of South Building. Point gone. Corroded. Length, 0.148 m. Diameter of head, 0.021 m. Small ring above corruga-

tions. All grooves shallow, except that next to head, which is of moderate depth. Slight raised rim around head. Edge of head has two grooves. Traces of groove round centre of lower corrugation. Pin probably one piece.

470. From West Building. Most of pin gone. Condition poor. Length, 0.0405 m. Diameter of head, 0.021 m. Slight raised rim. Traces of two grooves round edge of head. Upper corrugation has three grooves. Separating grooves all rather shallow. Pin and head as in No. 417.

471. Most of pin gone. Condition poor. Length, 0.0415 m. Diameter of head, 0.023 m. Possible traces of groove on edge of head. Also of raised rim. Main corrugation has raised grooved band. Lower corrugation plain. Pin and head as in No. 417.

472. From back of South Building. End gone. Condition poor. Length, 0.0465 m. Diameter of head, 0.025 m. Slight raised rim. Edge grooved. Upper corrugation has raised grooved band. Lower corrugation plain. Head and pin as in No. 417.

473. End gone. Length, 0.0525 m. Diameter of head, 0.025 m. Raised rim round head. Two grooves in edge of head. Upper corrugation has raised band with two grooves. Lower corrugation has raised band with one groove. All rings have fine rope-threading. Pin and head as in No. 417.

474. End gone. Condition poor. Length, 0.0965 m. Diameter of head, 0.0205 m. Raised rim around head, which has two grooves round edge. Upper corrugation with raised grooved band. Lower corrugation plain. Ring beneath head has fine oblique threading. Grooved ring at either side of secondary corrugation. Pin and head as in No. 417.

475. End and part of head gone. Length, 0.057 m. Diameter of head, 0.023 m. Rather high knob. Grooves shallow. Raised grooved band around main corrugation. Lower corrugation plain. Pin and head as in No. 417.

Group xii. Similar to Groups vi. and x.

476. From south slope. Most of pin gone. Length, 0.027 m. Diameter of head, 0.0175 m. Groove round edge of head. About centre of corrugation narrow raised band. All grooves shallow. Head and pin as in No. 417.

477. End gone. Length, 0.048 m. Diameter of head, 0.019 m. Rounded knob. Edge of head grooved. Three rings between head and cor-

rugation. Corrugation has narrow raised band. Grooves shallow. Pin and head as in No. 417.

478. End gone. Length, 0.06 m. Diameter of head, 0.022 m. Flat undercut knob. Top of head slightly concave. Edge grooved. Corrugation has narrow raised band. Lower corrugation plain. Grooves plain but not deep. Pin and head as in No. 417.

Group xiii. Similar to Groups vi. or vii., and xi.

479. End gone. Head abraded. Length, 0.0365 m. Diameter of head, 0.0155 m. Low rounded knob, slightly undercut. Main corrugation with prominent raised grooved band. All grooves shallow. Pin and head as in No. 417.

480. End gone. Condition poor. Length, 0.058 m. Diameter of head, 0.0185 m. Low rounded knob. Edge of head grooved. Both corrugations have raised grooved band. All grooves shallow. Head and pin as in No. 417.

Group xiv. Two rings just beneath head.

One or two rings at each side of the corrugations. Raised grooved band which may also ornament the lower corrugation.

481. Pin gone. Condition poor. Length, 0.0315 m. Diameter of head, 0.0175 m. Low knob. Top of head slightly concave. Edge of head grooved. Lower corrugation with band, with trace of groove. Grooves all shallow. Pin and head as in No. 417.

482. From back of South Building. Condition poor. Length, 0.032 m. Diameter of head, 0.0165 m. Rim of head raised. Grooved ring beneath head and at either side of each corrugation. Pin and head as in No. 417.

483. Condition poor. Length, 0.0435 m. Diameter of head, 0.0165 m. Low knob. Lower corrugation plain. Grooved ring at either side of both corrugations. Pin and head as in No. 417.

484. From south slope. End gone. Length, 0.065 m. Diameter of head, 0.0225 m. Knob flat. Top of head slightly concave. Edge of head has two grooves. Between head and corrugation three rings. Each corrugation has two raised rings. Pin and head as in No. 417.

485. Point damaged. Head half gone. Length, 0.0915 m. Diameter of head, 0.0185 m. Rounded undercut knob. Each corrugation has raised grooved band. Filing showed color medium light.

Group xv. Three rings of unequal size beneath head. Single ring at each side of corrugations. Grooved band on main corrugation and sometimes on lower one.

486. Most of pin gone. Condition poor. Length, 0.036 m. Diameter of head, 0.0205 m. Low undercut knob. Edge of head grooved. First two rings beneath head larger than third. Lower corrugation plain. Pin and head as in No. 417.

487. End gone. Length, 0.108 m. Diameter of head, 0.0219 m. Low undercut knob. Rim of head raised. Edge of head grooved. Lower corrugation plain. Pin and head as in No. 417.¹

488. From West Building. Length, 0.175 m. Diameter of head, 0.0295 m. Slight raised rim. Rather high round knob. Raised grooved bands on both corrugations. Whole pin probably one piece.

Group xvi. Double groove about main corrugation.

489. Point and part of neck gone. Length, 0.023 m. Diameter of head, 0.022 m. Low undercut knob. Rim of head raised. Edge of head grooved. Single ring beneath head and at either side of main corrugation. Head and pin as in No. 417.

490. End gone. Length, 0.075 m. Diameter of head, 0.021 m. Round undercut knob. Rim of head raised. Edge of head has raised band, with fine threading. Main corrugation has raised, double-grooved band. Lower corrugation has raised grooved band. Beneath head thick, broad ring with vertical threading. Single ring, with threading on each side of each corrugation. Grooves shallow. Pin and head as in No. 417. Cf. Group viii.

FORM 2. MORE ADVANCED. ELONGATED JACKET. HEAD LARGE OR MEDIUM SIZE, AND USUALLY THICK.

Class a. Two plain corrugations with single ring at either side of each. Two grooves under head. Represented only by No. 491.

491. Head gone. Length, 0.151 m. Rectangular knob at top for insertion into head. Groove near ring. Whole fragment probably one piece, though possibly pin inserted.

¹ *Olympia*, No. 485, is quite similar, except that it has double ring at each side of main corrugation.

² Cf. archaic Greek pin with three plain knobs, of

Class β. Two large rather thin corrugations, with clearly defined ring at either side tending to be completely separated from corrugations. Single similar ring under head.

492. From West Building. End gone. Length, 0.065 m. Diameter of head, 0.018 m. Low slightly undercut knob. Edge of head has two grooves. Rim of head raised. Rings and corrugations plain. Pin and head as in No. 417.

493. From West Building. End gone. Length, 0.0725 m. Diameter of head, 0.0275 m. Knob rather high and undercut. Edge of head has two grooves; rim raised. Two rings beneath lower corrugation. Lowest ring and ring above each corrugation and band between grooves on edge of head have fine oblique threading. Pin seems to be inserted in jacket, which seems of one piece with head, but this not certain. Possibly from same factory as No. 492.

494. Pin gone. Length, 0.0385 m. Diameter of head, 0.031 m. Rather high undercut knob. Edge of head has two grooves; rim raised. Top of head decorated with two bands of curved meander pattern, separated by band of circles. Rings and band between grooves on edge of head obliquely threaded. Head and jacket seem one piece. Pin probably of iron.

*Class γ. Two or more large plain corrugations of nearly equal size, with single ring on either side.*²

Group i. No special ring beneath head, there being only one between corrugation and head.

495. Fragment of top. Length, 0.024 m. Diameter of head, 0.034 m. High undercut knob with three grooves. Edge of head has raised band; rim raised. Filing showed stem to be of separate piece from jacket.

Group ii. Single small ring beneath head.

496. Pin gone. Length, 0.048 m. Diameter of head, 0.044 m. Rim of head raised; edge grooved. Two rings between corrugations. Pin of bronze, probably inserted. Head and knob with first ring probably separate piece from jacket.³

497. From south slope. End gone. Length, 0.101 m. Diameter of head, 0.023 m. Knob

which middle one is largest, from Megara Hyblaea, published by Orsi in *Mon. Ant. Linc.* I. col. 809.

³ Somewhat similar are two pins in museum at Florence (Vitrine V), from Borgo S. Sepolcro, 1888.

undercut. Rim of head raised; edge has three grooves. Whole pin probably one piece.

Group iii. Two rings under head, upper one being the larger. Cf. FORM 1, Class γ , Group viii.

498. From cutting above Old Temple toward tents. End gone. Length, 0.0285 m. Diameter of head, 0.027 m. High undercut knob. Rim of head raised; edge has two grooves. The two rings above corrugations have fine threading. Probably lower corrugation and its rings were strung on stem.

499. End gone. Length, 0.135 m. Diameter of head, 0.037 m. Knob undercut. Rim of head raised and beveled inside. Edge has three grooves. All small rings have vertical threading. Pin is inserted. Jacket thin. Head and jacket probably all one piece, though perhaps jacket separates from head beneath large top ring.¹

Class δ . Two plain corrugations with ring above top of one and between them. Next to head, plain neck. Beneath corrugations, sloping surface, upper end of which rises abruptly. Below this slope, one or more rings.

500. Pin gone, bottom of jacket injured. Length, 0.026 m. Diameter of head, 0.0165 m. Grooves on edge cut unevenly, so one does not go all round. Lower corrugation slopes off on lower side. Pin was of iron. Head and jacket probably one piece.

501. Pin gone. Length, 0.028 m. Diameter of head, 0.021 m. In edge of head, two grooves. Raised rim. Long neck. Sloping surface short, followed by ring. Pin of iron. Head and jacket probably one piece.

502. Pin gone. Length, 0.037 m. Diameter of head, 0.0215 m. In edge of head, two grooves. Raised rim. Ring below sloping surface followed by straight surface, with ring in middle and below. Pin of iron. Head and jacket one piece.

503. Pin gone. Length, 0.039 m. Diameter of head, 0.0215 m. In edge of head, two grooves. Raised rim. At base of sloping surface, ring, followed by low convex surface, ending in small ring. Pin of iron. Head and jacket probably one piece.

Addendum. The following number may perhaps be placed here.

504. From cutting above Upper Temple toward tents. Pin gone. Length, 0.0205 m. Diameter of head, 0.0155 m. One corrugation

with three rings above, the middle one being largest, and three below, the lowest being largest. Top of head slightly concave. Three grooves on edge. Band between two upper grooves has vertical thread. Same on all rings except bottom one. Pin of iron. Probably head and jacket one piece.

Class ϵ . Similar to δ , but with closely engraved lines on one or more corrugations and rings.

505. Pin gone. Length, 0.034 m. Diameter of head, 0.02 m. Knob conical, undercut. Edge of head with three grooves. Band between two upper has fine horizontal and oblique nicking. Raised rim. Neck straight. Round centre of main corrugation raised nicked band. Rings between corrugations nicked. Sloping surface convex. At bottom, two rings. Head and jacket probably one piece. Pin of iron.

506. Head and pin gone. Length, 0.036 m. Two large corrugations, each with raised nicked band. Between and above corrugations single nicked ring. Sloping surface has nicked ring at bottom, and nicking at upper edge. Jacket probably one piece. Pin of iron. Filing showed medium color.

507. Pin gone. Length, 0.049 m. Diameter of head, 0.0255 m. Conical undercut knob. Edge of head has three grooves. Upper band nicked. Raised rim. Band in corrugations and rings above same nicked. Sloping surface has nicked upper edge and nicked ring, below which two other rings. Head and jacket probably one piece. Probable traces of iron pin.

Class ζ . Similar to Class δ , but with corrugations ornamented. Upper one by heavy oblique grooves, arranged in groups of three. Lower one by antithetic semi-circles.

508. Pin gone. Length, 0.048 m. Diameter of head, 0.029 m. Knob conical, undercut. Surface of top convex. Raised rim. Band round edge nicked. Iron pin. Head and jacket probably one piece.

Class η . Similar to Class ζ , but with deep perpendicular lines in corrugations, and with one or more rings under head.

Group i. One ring under and probably attached to head.

PLATE LXXXII.

509. Pin gone. Length, 0.042 m. Diameter of head, 0.0255 m. Round undercut knob.

¹ Pin confused in photograph with head of No. 531.

Edge has three rings. Raised rim. Within each of grooves on corrugations are three finer grooves, sometimes four. Pin probably of iron.

Group ii. Two rings under head, of which upper is larger. Probably not attached.

510. End gone. Length, 0.073 m. Diameter of head, 0.037 m. Knob made of two superposed cones with cylindrical cap. Upper cone has grooves radiating from cap. Each groove surrounded by line. Lower part of knob has fine lines. Top of head slightly concave. Raised rim on lower side of head also. Edge has band round centre, from which run toward each rim grooved ornament. Below second ring, short neck, followed by line of cleavage, showing jacket separable at this point. Corrugations as in No. **509**. Sloping surface slightly concave. Ornamented with pattern similar to knob. Pin of iron.

511. Pin and head gone. Length, 0.0465 m. Similar to jacket of No. **510** below division. Pin probably of bronze.

Class 0. Two corrugations with vertical lines. Above, between head and corrugations, two small rings. Between corrugations, two similar rings. Beneath, one or two rings. Rim as before. Head grooved.

Group i. Head has two grooves.

(a'.) One ring beneath corrugations.

512. From south slope. Length, circ. 0.155 m. Diameter of head, 0.023 m. Knob deeply undercut. Raised rim. On main corrugation, grooves in groups of three. On lower, in groups of two.

513. From south slope. End gone. Length, 0.067 m. Diameter of head, 0.023 m. Grooves on both corrugations in groups of two.

514. Pin gone. Length, 0.0265 m. Diameter of head, 0.0235 m. Grooving coarse. Pin was inserted.

515. Point and lower part of jacket gone. Length, 0.141 m. Diameter of head, 0.021 m. Grooving coarse.

516. From south slope. End gone. Length, 0.0965 m. Diameter of head, 0.0217 m. Lines on corrugations oblique from right to left. Lowest ring part of same piece with pin. Corrugations appear as though strung.

517. From south slope. Pin and lower part of head gone. Length, 0.02 m. Diameter of head, 0.0215 m. Grooving oblique from right to left.

Filing showed medium light color, and no trace of composite structure.

518. From south slope. End gone. Length, circ. 0.145 m. Diameter of head, 0.0155 m. Slight groove below lowest ring, as though pin were inserted there.

519. Length, 0.143 m. Diameter of head, 0.021 m. Grooves oblique. Lowest ring seems to go with pin.

520. End gone. Length, 0.05 m. Diameter of head, 0.0135 m. Grooves slightly oblique. Lowest ring belongs to pin.

521. From West Building. Length, 0.155 m. Diameter of head, 0.022 m. Unbroken.

(b'.) Two rings beneath corrugations.

522. From West Building. End gone. Length, 0.1015 m. Diameter of head, 0.023 m. Grooves slightly oblique. Ring below lower corrugation faintly grooved.

523. End gone. Condition poor. Length, 0.143 m. Diameter of head, 0.021 m. Grooves oblique.

Group ii. Head has three grooves. Rim raised and beveled.

(a'.) One ring beneath lower corrugation.

524. End gone. Length, 0.088 m. Diameter of head, 0.0205 m. Grooves on corrugations in groups of three, one group of four on lower corrugation.

525. From West Building. End gone. Length, 0.08 m. Diameter of head, 0.018 m. Lowest ring seems to belong to pin.

526. Pin gone. Length, 0.026 m. Diameter of head, 0.021 m. Grooves in groups of three, one group of two on upper corrugation. Pin seems to have been of copper.

527. From West Building. End gone. Length, 0.0865 m. Diameter of head, 0.021 m. Lower ring seems to belong to pin.

528. From south slope. End gone. Length, 0.087 m. Diameter of head, 0.02 m.

529. From West Building. End gone. Length, 0.072 m. Diameter of head, 0.022 m.

530. End gone. Length, 0.111 m. Diameter of head, 0.29. Rings have fine vertical cuts.

531. Cf. No. **499**, note. End gone. Length, 0.147 m. Diameter of head, 0.04 m. Pin has slight groove at joining with lowest ring and seems separate.¹

532. End gone. Length, 0.075 m. Diameter of head, 0.017 m.

¹ Cf. *Olympia*, No. 481, for form and size.

533. End gone. Length, 0.073 m. Diameter of head, 0.021 m.

534. End gone. Length, 0.094 m. Diameter of head, 0.025 m.

535. End gone. Length, 0.044 m. Diameter of head, 0.0185 m.

536. End gone. Length, 0.115 m. Diameter of head, 0.0235 m. Rings have oblique threading.

537. End gone. Length, 0.068 m. Diameter of head, 0.0175 m. Lowest ring seems to go with pin.

538. End gone. Length, 0.11 m. Diameter of head, 0.016 m. Lowest ring seems to go with pin. Grooves on lower corrugations closer than on upper.

539. From West Building. Length, 0.138 m. Diameter of head, 0.018 m. Top of head slightly concave.

540. Length, 0.059 m. Diameter of head, 0.018 m. Lowest ring probably goes with pin.

541. End gone. Length, 0.095 m. Diameter of head, 0.02 m. Lowest ring probably goes with pin.

542. End gone. Length, 0.0425 m. Diameter of head, 0.0195 m.

543. End gone. Length, 0.0765 m. Diameter of head, 0.019 m.

544. End gone. Length, 0.0835 m. Diameter of head, 0.0165 m. Lowest ring probably goes with pin.

545. End gone. Length, 0.0705 m. Diameter of head, 0.017 m. Top ring larger than usual and shows trace of groove.

546. End gone. Length, 0.0875 m. Diameter of head, 0.021 m.

547. From back of South Building. Pin gone. Knob injured. Length, 0.028 m. Diameter of head, 0.019 m. Pin probably was of iron.

548. From West Building. End gone. Length, 0.15 m. Diameter of head, 0.021 m. Lowest ring probably goes with pin.

549. From back of South Building. End gone. Length, 0.0825 m. Diameter of head, 0.0205 m. Corrugations rather thick.

550. End gone. Length, 0.083 m. Diameter of head, 0.021 m.

551. From back of South Building. End and lower part of jacket gone, also part of head. Length, 0.0255 m. Diameter of head, 0.0185 m.

552. From West Building. End gone. Length, 0.063 m. Diameter of head, 0.019 m.

553. Pin corroded. Length, 0.173 m. Diameter of head, 0.0205 m. Rim has convex beveling. Lowest ring probably goes with pin, and possibly pin inserted into lowest corrugation.

554. End gone. Length, 0.0815 m. Diameter of head, 0.02 m. Knob undercut and resting on a raised base. Lowest ring seems to go with pin.

555. From West Building. Present point not original. Length, 0.118 m. Diameter of head, 0.0175 m. Only one ring between corrugations.

(b'.) Two rings beneath corrugation. Only one uncertain example.

556. From south slope. Pin and about half of head gone. Length, 0.03 m. Diameter of head, 0.022 m. Filing showed color medium light, and no trace of composite structure.

Group iii. Head has four grooves.

557. End and lower part of jacket gone. Length, 0.022 m. Diameter of head, 0.026 m.

Addenda. Pins of this class with heads broken off. One ring beneath lower corrugation. Lower corrugation only preserved.

558. From back of South Building. Length, 0.156 m. Filing showed color medium light.

559. Point gone. Length, 0.0825 m. Ring beneath corrugations double usual width.

560. Point gone. Length, 0.1145 m.

561. Point gone. Length, 0.0985 m.

Both corrugations preserved.¹

562. Point gone. Preserved through first ring above upper corrugation. Length, 0.05 m.

563. Point gone. Length, 0.086 m.

564. Point gone. Length, 0.083 m.

565. Point gone. Length, 0.111 m.

566. Point gone. Length, 0.085 m.

567. Point gone. Length, 0.0975 m.

FORM 3. ADVANCED. RATHER SHORT CROWDED JACKET. LARGE, RELATIVELY THIN HEAD.

Class a. Two plain corrugations; upper with ring on lower sides; lower has ring on each side. Below, foot with slight concavity in middle.

568. Pin gone. Length, 0.0205 m. Diameter of head, 0.02 m. Low flat rim, groove near edge on top. Edge of head grooved. Upper corrugation the largest. Traces of iron pin.

¹ With the following cf. *Olympia*, No. 487, which is not said to be headless.

Class β. Two plain, broad, slightly rounded corrugations. Between head and upper corrugation, three rings (or a flat corrugation with two grooves). Between corrugations, two rings of similar construction, and two similar rings beneath lower corrugation. In highest group of rings, grooves less deep than in two lower groups.

569. From West Building. Pin gone. Length, 0.038 m. Diameter of head, 0.0325 m. Edge of head has two grooves. Remains of iron pin. Jacket probably all one piece.

Class γ. Two corrugations with flat raised ring about centre and ring (attached) at either end. Edge of head recedes downward in two steps.

570. Length, 0.144 m. Diameter of head, 0.0225 m. Rim raised very little. First step (next head) on lower side head higher than second. Both are notched obliquely on edge. Neck between head and first corrugation thicker than neck between the corrugations. Upper corrugation continued beyond its lower ring. Edges of rings and bands on corrugations notched. Head and upper corrugation seem one piece. Possible that pin passes through lower corrugation into upper one; also possible that jacket is of one piece.

Class δ. One or two ornamental corrugations. Knob conical.

Group i. Upper corrugation has raised ring at centre. Ring between head and corrugation. Beneath corrugation, two rings. Below, small plain corrugation, followed by ring.

571. Pin gone. Length, 0.024 m. Diameter of head, 0.025 m. Raised rim. Lower edge of head notched. Upper three rings and band on corrugations notched. Remains of iron pin.

Group ii. Upper corrugation has raised grooved ring and ring at either side. Lower corrugation has raised ring and ring at either side. Beneath, a broad and a narrow ring. Probably all from the same factory.

572. Pin gone. Length, 0.038 m. Diameter of head, 0.036 m. Raised rim. Lower edge of head notched. Lower corrugation much smaller than upper. Bands on corrugations and all rings except top one notched. Pin probably was of iron. Head and jacket probably one piece.

573. Pin gone. Length, 0.033 m. Diameter

of head, 0.031 m. Raised rim. Lower edge of head notched. Jacket similar to that of No. **572**, but lower corrugation larger. Pin probably of iron.

574. Pin gone. Length, 0.035 m. Diameter of head, 0.0335 m. Inside beveled rim of head, a notched band. Top of head slightly convex. Edge of head has two grooves. Jacket similar to that of No. **573**. Remains of iron pin.

575. From cutting upon hill toward tents above Old Temple. Length, 0.034 m. Diameter of head, 0.036 m. Rim and band on head similar to No. **574**. Edge has two grooves with band between notched. Jacket similar to that of No. **574**. All rings notched. Pin probably of iron.

FORM 4. PINS OF VARIOUS STAGES OF DEVELOPMENT, USUALLY WITH SHORT CROWDED JACKET AND THICK HEAD.

Class α. With one, two, or three plain corrugations. Beneath these usually one or more rings.

Group i. Simple style, with two plain corrugations. With or without ring or rings beneath.

576. Point gone. Length, 0.0525 m. Diameter of head, 0.009 m. Knob on head looks like projecting stem, but under side of head looks like one piece with neck. Corrugations and pin probably one piece.

577. Point gone. Length, 0.0765 m. Diameter of head, 0.011 m. Round edge on top row of dot in circles. Edge grooved. Ring grooved. Head seems of one piece with pin. Whole pin probably one piece.

The two following fragments probably belong here.

578. Head gone. Length, 0.041 m.

579. Head and end gone. Length, 0.057 m. Two small rings between corrugation.

Group ii. One corrugation. Beneath, two or more rings. Head usually only slightly larger than corrugation and rings.

(a'.) Rather crowded.

580. From south slope. Length, 0.067 m. Diameter of head, 0.0065 m. Edge of head has two grooves. Filing showed medium color. Whole pin probably one piece.

581. From south slope. End gone. Length, 0.031 m. Diameter of head, 0.0085 m. Traces of four grooves on edge of head.

582. End gone. Length, 0.038 m. Diam-

eter of head, 0.009 m. Edge of head has two grooves.

(b'.) Less crowded.

583. End gone. Length, 0.0275 m. Diameter of head, 0.06 m.

584. End gone. Length, 0.062 m. Diameter of head, 0.0095 m. Rim slightly raised. On top marks that look like letters, but probably not. Edge of head has two grooves. Whole pin probably one piece.

585. Length, 0.0987 m. Diameter of head, 0.011 m. Low raised rim beveled inside. Edge of head has one groove. Corrugation ring has two grooves.

586. Point gone. Length, 0.127 m. Diameter of head, 0.012 m. Edge of head has five grooves. Corrugation ring has three grooves. Head and jacket taper downward. Possibly head and beads are strung.

Group iii. One plain corrugation, beneath which one or more rings. Head broader, proportionally, than in Group ii.

587. Length, 0.096 m. Diameter of head, 0.008 m. Edge of head has two grooves. Two rings below corrugation.

588. Tip gone. Length, 0.062 m. Diameter of head, 0.0094 m. Slightly raised rim. Edge of head has two grooves. Beneath corrugation, three rings, the lowest being raised end of pin.

589. Bent. Length, 0.097 m. Diameter of head, 0.0085 m. Head has four grooves. Below corrugation, grooved ring and two plain rings. Whole pin probably solid.

Group iv. Similar to Group iii., but with two corrugations, usually with ring or rings beneath.

(a'.) Without rings. Corrugation plain.

590. Length, 0.085 m. Diameter of head, 0.007 m. Edge of head has two grooves. Space between head and upper corrugation narrow. Lower corrugation smaller than upper. Perhaps belongs to Group iii.

591. Condition poor. Length, 0.0225 m. Diameter of head, 0.012 m. Edge of head has two grooves. Corrugations look separable.

592. Present end not original. Length, 0.044 m. Diameter of head, 0.0115 m. Edge of head has two grooves. Stem of jacket larger than pin at top.

(b'.) With one ring.

593. End gone. Length, 0.02 m. Diameter of head, 0.0075 m. Edge of head has one groove (perhaps two). Ring about half as large as lower corrugation. Stem of jacket larger than pin.¹

594. Length, 0.059 m. Diameter of head, 0.0055 m. Edge of head has three grooves. Whole pin probably one piece.

595. End gone. Length, 0.022 m. Diameter of head, 0.009 m. Edge of head has at least two grooves. Lower corrugation smaller than upper. Stem of jacket larger than pin.

596. End gone. Length, 0.058 m. Diameter of head, 0.014 m. Edge of head has three (perhaps four) grooves. Lower corrugation has two grooves and band between of rectangles. Jacket and stem taper downward from head.

(c'.) With two rings (really perhaps a grooved corrugation).

597. End gone. Length, 0.059 m. Diameter of head, 0.011 m. Grooving on edge of head doubtful. Beneath lower corrugation grooved ring, of which lower part forms end of pin. Jacket tapers downward and has stem larger than top of pin. Whole pin probably one piece.

598. End gone. Length, 0.069 m. Diameter of head, 0.012 m. Edge of head has two grooves.

599. From West Building. End gone. Length, 0.045 m. Diameter of head, 0.0123 m. Edge has two grooves. Stem of jacket larger than head of pin and tapers.

600. Head of pin. Length, 0.0135 m. Diameter of head, 0.013 m. Two grooves in edge. Under side of head convex. Traces of iron pin.

601. Most of pin gone. Length, 0.018 m. Diameter of head, 0.0145 m. Two grooves in edge. Pin of bronze. Stem of jacket larger than pin.

602. Point gone. Length, 0.071 m. Diameter of head, 0.0145 m. Top of head slightly concave; rim raised. Edge of head tapers downward, and has two grooves. Stem of jacket larger than pin. Head and jacket taper concavely.

603. Pin gone. Length, 0.0205 m. Diameter of head, 0.02 m. Top of head concave. Knob on low base and outside it band of small circles. Edge of head tapers, and has two grooves. Jacket tapers (slightly concave). Pin of iron.

604. Pin gone. Length, 0.0155 m. Diameter

¹ Cf. the somewhat similar bronze pin from Villanova (iron age), Montelius, *Civ. Prim. It.* pl. 91, fig. 5.

of head, 0.019 m. Around knob, band of spiral maeander. Top of head concave. Edge of head tapers concavely and has two grooves. Lower edge finely notched. Lowest ring notched on upper edge. Remains of iron pin.

605. From back of South Building. Pin gone. Length, 0.0185 m. Diameter of head, 0.016 m. Around bottom of knob, band of circles. Top of head concave, with slight rise in centre. Edge of head tapers downward, and has two grooves. Head and jacket taper concavely. Remains of iron pin. Probably from same factory as No. 606.

606. Pin gone. Length, 0.0215 m. Diameter of head, 0.0188 m. Knob rests on base, on which band of circles. Edge of head tapers downward, and has two grooves. Head and jacket taper concavely. Remains of iron pin.

607. Pin gone. Length, 0.022 m. Diameter of head, 0.0185 m. Top of head concave, with rise in centre. Edge of head stepped. Remains of iron pin.

608. Pin gone. Length, 0.024 m. Diameter of head, 0.022 m. Top of head concave. In edge, two grooves. Band between them notched. Corrugations have oblique grooves. Head and jacket probably one piece.

In the following number the second corrugation and the grooved ring have changed places.

609. Pin gone. Length, 0.0155 m. Diameter of head, 0.012 m. Top of head slightly concave. In edge, two grooves. Jacket tapers irregularly. Remains of bronze pin. Color medium.

(d'.) With raised band between the two rings.

610. Pin gone. Length, 0.016 m. Diameter of head, 0.0105 m. Knob nearly cylindrical with groove across top. Top of head concave; edge has three grooves and perhaps four. Head and jacket taper. Stem of jacket tapers. Color medium.

611. Most of pin gone. Length, 0.0335 m. Diameter of head, 0.0122 m. Rim of head raised. In edge, two grooves. Band between them nicked. Lower ring nicked.

Group v. Three corrugations and grooved ring. Corrugations plain.

PLATE LXXXIII.

612. From back of South Building. End gone. Length, 0.064 m. Diameter of head, 0.0125 m. Edge of head one groove. Taper downward from middle corrugation.

613. Pin gone. Length, 0.027 m. Diameter,

of head, 0.0205 m. Top of head concave, with slight rise in centre. Edge of head stepped, as in No. 607. Corrugations decrease in size downward. Remains of iron pin. Probably from same factory as No. 607.

Addenda.

614. Pin gone. Length, 0.0165 m. Diameter of head, 0.016 m. Top of head concave, with raised rim. Edge of head has one groove. Middle corrugation thickest. Edges of all corrugations notched. Remains of iron pin.

615. From back of South Building. Pin gone. Length, 0.016 m. Diameter of head, 0.019 m. Top slightly concave. Edge of head tapers downward, and has two grooves. Pin of iron.

Class β. One or more broad corrugations with rings.

Group i. Simple. One broad plain corrugation, with one or two rings (or grooved ring-corrugation) at either side. Some of the heads thin.

(a'.) Upper ring single.

616. Point gone. Length, 0.0555 m. Diameter of head (corroded), 0.055 m. One ring above corrugation, grooved ring below. Groove at top of pin where it joins grooved ring.

(b'.) Both rings double.

617. From back of South Building. Pin bent. Length, 0.0885 m. Diameter of head, 0.007 m. No knob. Edge of head grooved.

618. Most of pin gone. Length, 0.0165 m. Diameter of head, 0.013 m. Band of dotted circles on top of head at edge.

619. End gone. Length, 0.041 m. Diameter of head, 0.0115 m. Faint groove in edge.

620. Point gone. Length, 0.066 m. Diameter of head, 0.0105 m. Stem of jacket larger than pin.

621. End gone. Length, 0.053 m. Diameter of head, 0.0105 m. Edge of head grooved. Jacket tapers downward from upper ring.

Group ii. Kindred miscellaneous forms.

622. Point blunted. Length, 0.09 m. Diameter of head, 0.01 m. Rim of head raised; edge grooved and lower edge notched. Two plain corrugations, of which the upper is the larger. It has notched ring on either side. Small ring beneath lower corrugation.

623. Point gone. Length, 0.0785 m. Diameter of head, 0.0145 m. Edge of head has two grooves. One large spherical corrugation, above which heavy ring. Below, two groups of rings, the upper of three, the lower of two. Stem of

jacket larger than pin. Whole pin seems to be of one piece.

624. End gone. Length, 0.045 m. Diameter of head, 0.018 m. Edge of head has one groove. Under side of head has flat, slightly elevated surface. Two corrugations; upper, the larger, with raised grooved ring. Ring on either side of each corrugation.

Group iii. Two corrugations, of which one or both is thick. Usually ornamented with raised bands, which may be grooved. Rings above, below, and between.

(a'.) Both corrugations ornamented with raised band. Above upper and beneath lower corrugation, and also between corrugations, a single ring.

625. From south slope. Pin gone. Length, 0.0255 m. Diameter of head, 0.0175 m. Knob conical. Top of head deeply concave, with centre raised above rim. Edge of head grooved. Lower edge notched, as also bands on corrugations and lowest ring. Remains of iron pin. Head and jacket seem one piece.

626. Pin gone. Length, 0.0275 m. Diameter of head, 0.0215 m. Knob cylindrical. Edge of head has two grooves, with band between notched vertically. All bands and rings notched. Remains of bronze pin. Head looks welded to jacket.

(b'.) Two plain corrugations, with single ring above and below each.

627. Point gone. Length, 0.0865 m. Diameter of head, 0.009 m. Top of head concave. Edge of head has two grooves, with band between notched. Possible traces of notching on rings.

(c'.) Upper corrugation has raised band. Otherwise same as above.

628. End gone. Length, 0.046 m. Diameter of head, 0.0127 m. Top of head slightly concave. Edge of head has one groove and tapers downward.

629. Point gone. Length, 0.094 m. Diameter of head, 0.013 m. Rim of head slightly raised and edge has two grooves. Lowest ring forms top of pin.

630. From West Building. End gone. Head damaged. Length, 0.059 m. Diameter of head 0.011 m. Upper corrugation about twice the size of lower and has low raised band.

631. End gone. Length, 0.05 m. Diameter

of head, 0.014 m. Edge of head has one groove and tapers downward; rim beveled. Lower rim of head notched, as also band on corrugation, and rings.

632. Length, 0.128 m. Diameter of head, 0.0115 m. Head, corrugations, and rings same as in No. 631.

633. Pin gone. Head damaged. Length, 0.0225 m. Diameter of head, 0.0175 m. Top of head depressed. Knob on base. Head, corrugations, and rings probably same as in No. 631. Remains of iron pin.

(d'.) Similar. Upper corrugation has raised grooved band, lower has plain band.

634. End gone. Condition poor. Length, 0.069 m. Diameter of head, 0.0145 m. Edge of head has two grooves. Band between has fine notching. Stem much larger than jacket.¹

(e'.) Similar. Both corrugations have raised grooved band.

635. Pin gone. Head much corroded. Length, 0.03 m. Diameter of head, 0.0215 m. Rim of head raised and top concave. Edge of head has two grooves. Uncertain whether pin of bronze or iron.

636. Pin gone. Length, 0.042 m. Diameter of head, 0.0255 m. Top of head has two concave circular surfaces. Edge of head has two grooves. Beneath lower ring of lower corrugation, another ring and small corrugation. Remains of iron pin.

The following may belong with either (d') or (e').

637. Pin and lower part of jacket gone. Length, 0.021 m. Diameter of head, 0.025 m. Edge of head has three grooves; lower band notched. Ring on either side of corrugation. Bands on corrugation notched.

638. From West Building. Pin and lower part of jacket gone. Length, 0.002 m. Diameter of head, 0.0265 m. Edge of top tapers and has two grooves with notched band. Band on corrugation notched. Filing showed color medium.

(f'.) Two plain corrugations, with ring at either end of each and another ring just under head.

639. End gone. Head corroded. Length, 0.0425 m. Edge of head has one groove.

640. Most of pin gone. Head corroded. Length, 0.0235 m. Diameter of head, 0.0145 m.

¹ Very similar, *Olympia*, No. 484.

Filing showed color medium. Pin probably all one piece.

641. Most of pin gone. Length, 0.0285 m. Diameter of head, 0.011 m. Edge of head has three grooves.

(*g'*.) Similar. Upper corrugation has raised grooved band. Lower has plain raised band.

642. Most of pin gone. Length, 0.035 m. Diameter of head, 0.0155 m. Edge of head has two grooves.

643. From south slope. End gone. Length, 0.0635 m. Diameter of head, 0.0215 m. Rim raised. Edge of head has two grooves with notched band. All rings and bands notched. Pin was inserted.

(*h'*.) Similar. Both corrugations have raised grooved bands.

644. End gone. Length, 0.082 m. Diameter of head, 0.0155 m. Edge of head has two grooves with band perhaps notched.

The following, No. 645, possesses an elementary form of the head-ring, and may be placed under either (*g'*) or (*h'*).

645. Pin and lower part of jacket gone. Length, 0.025 m. Diameter of head, 0.026 m. Rim raised; edge of head has two grooves with notched band. Filing showed color medium.

(*i'*.) Similar. Upper corrugation has raised double groove; lower corrugation has raised single groove.

646. End gone. Length, 0.088 m. Diameter of head, 0.0215 m. Knob on notched base. Edge of head has two grooves and notched band.

Class γ. One rather large corrugation. Above, a single ring or ring-corrugation, which may be grooved. Beneath, two or more rings or ring-corrugations.

Group i. Single ring between corrugation and head.

(*a'*.) Single grooved ring beneath corrugation. Edge of head grooved. Corrugation plain.

647. From south slope. End gone. Length, 0.056 m. Diameter of head, 0.0105 m. Edge grooved.

648. End gone. Length, 0.045 m. Diameter of head, 0.0117 m. Row of dotted circles on top of head. Edge grooved.

(*b'*.) Corrugation with raised notched band. Beneath, small plain corrugation with heavy ring at each side.

649. From back of South Building. Pin gone.

Length, 0.028 m. Diameter of head, 0.021 m. Top of head concave, and lower rim probably notched. Under side of head stepped. Upper and lowest ring have notches on both edges. Remains of iron pin.

(*c'*.) Corrugation plain; beneath, three rings, the middle being thickest and grooved.

650. From back of South Building. Length, 0.158 m. Diameter of head, 0.015 m. Top of head concave. Edge of head tapers downward concavely and has four grooves. Rest of jacket tapers convexly. Traces of notching on the three single rings.

Group ii. With double or grooved ring between corrugation and head.

The following, Nos. 651, **652**, have only one ring beneath corrugation, but the general appearance and style resemble the others. Corrugation plain.

651. End and most of head gone. Length, 0.0335 m. Small knob resembling end of stem. Filing showed color medium.

652. End gone. Length, 0.032 m. Diameter of head, 0.0095 m. Edge of head grooved. Stem about same size as pin. Probably all one piece.

The following, No. **653**, has beneath corrugation a grooved ring above rectangular block.

653. From south slope. End and part of head. Length, 0.052 m. Diameter of head, 0.0095 m. Stem about same size as pin. Rectangular block has grooved collar.

(*a'*.) Simple. Plain corrugation with grooved ring above and below.

654. End gone. Point not original. Length, 0.049 m. Diameter of head, 0.0095 m. Edge of head grooved. Stem of jacket about same size as pin. Whole pin probably one piece.

655. Point gone. Condition poor. Length, 0.064 m. Diameter of head, 0.0115 m.

656. From south slope. End gone. Length, 0.0475 m. Diameter of head, 0.012 m.

657. End gone. Length, 0.0705 m. Diameter of head, 0.0108 m. Edge of head grooved, and on top ring of dotted circles.

(*b'*.) Similar, but more advanced, and with single ring added underneath.

658. End gone. Length, 0.061 m. Diameter of head, 0.014 m. Edge of head has two grooves. Jacket tapers downward. Stem of jacket larger than pin.

659. From south slope. Length, 0.022 m. Diameter of head, 0.0135 m. Edge of head

grooved. Jacket similar to that of No. 658. Stem of jacket slightly larger than pin. Filing showed color medium.

(c'.) Similar to last, but with two rings underneath. Second ring small and grooved.

660. End gone. Point not original. Length, 0.059 m. Diameter of head, 0.0155 m. Edge of head has two grooves. Jacket tapers downward convexly. Stem of jacket larger than pin. Pin probably one piece.

(d'.) Beneath corrugation, smaller one with plain ring on either side. (Cf. No. 649.) Uppermost ring grooved as before.

661. End gone. Length, 0.059 m. Diameter of head, 0.0165 m. Top of head slightly concave. Edge of head has two grooves. First three members of jacket have nearly same diameter; last two taper. On lower side of top ring, and on first ring beneath main corrugation, and on bottom ring, traces of notching. Pin seems inserted into lowest ring. Probably from same factory as No. 662.

662. Pin gone. Length, 0.024 m. Diameter of head, 0.0165 m. Edge of head has two grooves, with notched band between. Jacket similar to that of No. 661.

Class δ. Head assimilated to jacket, which (including head) consists of two or three members placed close together, and tapers downward slightly.

Group i. Two members in jacket. Upper thin and plain. Lower thicker and with two grooves.

663. From south slope. End gone. Length, 0.0805 m. Diameter of head, 0.011 m. Stem projects through top.

Group ii. Three members tapering slightly downward. Upper and lower ones grooved.

(a'.) Middle member plain, top plain.

664. End gone. Condition poor. Length, 0.0425 m. Diameter of head, 0.01 m. Edge of head has three grooves.

(b'.) All three members grooved. Knob on top.

665. From south slope. Most of pin gone.

Length, 0.018 m. Diameter of head, 0.0105 m. Edge of head has two grooves. Second and third members also two each.

(c'.) Middle member plain. Eyelet on top.

666. From West Building. End gone. Length, 0.114 m. Diameter of head, 0.009 m. Height of eyelet, 0.0025 m. Head has four grooves. Lowest member two. Pin probably separate from jacket.

Unclassified addenda to Type f.

667. From south slope. Head and corrugations preserved. Length, 0.0215 m. Diameter of head, 0.022 m. In centre of top of head, rectangular opening as though punched through from below. Stem projects. On top surface of head, rosette. Rim raised. Close to rim, very fine zigzag. Stem and corrugation are of iron.¹

668. From south slope. End and head gone. Length, 0.118 m. Cf. Nos. 460 and 485. In top, hole, looking as if upper part of jacket had been fitted to it.

669. Most of pin gone, and perhaps a head also. Length, 0.0295 m. Stem projects through top. Lowest ring has traces of notching. Jacket seems to be of one piece.

Discards of Type f: sixty-five, of which two from back of South Building, and one from south slope.

Type g. Headless. Jacket of two corrugations, one or both of which are ornamented, and have on either side a ring.² On top, an eyelet.

FORM 1. ORNAMENTATION ENCIRCLES CORRUGATIONS HORIZONTALLY.

Class a. Upper corrugation has raised band.

Group i. Lower corrugation plain.

(a'.) All rings and bands plain.

670. Eyelet broken. End gone. Length, 0.051 m. Diameter of upper corrugation, 0.013 m. (Cf. No. 699.)

671. Most of pin gone. Length, 0.0235 m. Diameter of upper corrugation, 0.012 m.

672. Point probably gone. Length, 0.1055 m. Diameter of upper corrugation, 0.012 m.

(b'.) All rings have fine notching.

673. Length, 0.144 m. Diameter of upper

¹ For more elaborate rosette, cf. Orsi, 'Necropolis del Fusco,' *Not. degli Scavi*, 1895, p. 169. Orsi sees (note 2) reminiscence of Mycenaean style. Tomb early archaic. Cf. rosettes on bone objects from the Dictaeon cave, *British School Annual*, VI. p. 113, fig. 49 (Hogarth), and

the gold rosette from a tholos tomb at Praesos, *ibid.* VIII. p. 243 (Bosanquet).

² With this type may be compared *Olympia*, No. 488, which is different in style (has vertical grooves and conical apex), and is said by Furtwängler to be of later date.

corrugation, 0.015 m. Stem of jacket larger than pin.

674. Point gone. Length, 0.1275 m. Diameter of upper corrugation, 0.017 m. Pin possibly inserted.

Group ii. Both corrugations have raised grooved band.

675. End gone. Eyelet broken. Length, 0.076 m. Diameter of upper corrugation, 0.012 m. Stem of jacket larger than pin, which is possibly inserted.

676. End gone. Length, 0.0625 m. Diameter of upper corrugation, 0.0105 m. Stem of jacket larger than pin, which is possibly inserted.

677. Length, 0.123 m. Diameter of upper corrugation, 0.013 m. Stem about same size as top of pin.

Class β. Upper corrugation has raised double (or grooved) band.

Group i. Lower corrugation plain.

678. End gone. Length, 0.037 m. Diameter of upper corrugation, 0.012 m. Stem between corrugations smaller than top of pin.

679. From back of South Building. End gone. Length, 0.081 m. Diameter of upper corrugation, 0.0115 m.

Group ii. Lower corrugation has raised band. Bands and rings notched in almost every case.

680. End gone. Length, 0.0675 m. Diameter of upper corrugation, 0.0125 m. Stem same size as pin, which looks inserted.

681. End gone. Length, 0.0395 m. Diameter of upper corrugation, 0.0123 m. Stem same size as pin, which is perhaps inserted.

682. From south slope. Point gone. Length, 0.117 m. Diameter of upper corrugation, 0.012 m.

683. Point probably not original. Length, 0.095 m. Diameter of upper corrugation, 0.012 m. Stem larger than pin. Top of head has grooves from centre to rim.

684. Most of pin gone. Length, 0.0385 m. Diameter of upper corrugation, 0.013 m. Same grooves on top as in No. 683.

685. End gone. Length, 0.081 m. Diameter of upper corrugation, 0.013 m. Head as in No. 683.

686. From south slope. End gone. Length, 0.098 m. Diameter of upper corrugation, 0.0125 m. Head as in No. 683. Pin perhaps inserted.

687. Most of pin gone. Length, 0.047 m.

Diameter of upper corrugation, 0.0135 m. Head as in No. 683.

688. From south slope. End gone. Length, 0.057 m. Diameter of upper corrugation, 0.0165 m. Stem larger than pin. Upper part of pin round. Below, rudely diamond-shaped.

689. End gone. Length, 0.072 m. Diameter of upper corrugation, 0.016 m. Head as in No. 683. Stem larger than pin.

The following three have or had pins of iron.

690. Pin gone. Length, 0.0195 m. Diameter of upper corrugation, 0.013 m. Top as in No. 683. Stem larger than pin.

691. From south slope. Pin gone. Length, 0.022 m. Diameter of top corrugation, 0.015 m. Top as in No. 683. Stem larger than pin.

692. Length, 0.023 m. Diameter of top corrugation, 0.0155 m. Head similar to that of No. 683, but grooves fewer. On under side of lower corrugation, low flat ring.

The following number has two rings above upper corrugation.

693. End gone. Length, 0.099 m. Diameter of top corrugation, 0.0115. Lower corrugation somewhat larger. Head as in No. 683. Stem larger than pin.

Class γ. Upper corrugation has raised band with double grooves.

Group i. Lower corrugation plain.

694. End gone. Length, 0.064 m. Diameter of upper corrugation, 0.011 m.

695. End gone. Length, 0.0645 m. Diameter of upper corrugation, 0.012 m. On upper and lower halves of corrugation leaf ornament. Pin perhaps inserted.

Group ii. Lower corrugation has raised grooved band.

696. From back of South Building. End gone. Length, 0.0815 m. Diameter of upper corrugation, 0.0115 m. Head as in No. 683. Stem larger than pin.

Group iii. Lower corrugation has double grooved band. Double ring beneath lower corrugation.

697. Present point probably not original. Length, 0.092 m. Diameter of upper corrugation, 0.012 m. On both halves of upper corrugation, leaf ornament as in No. 695. All rings notched.

FORM 2. ORNAMENTATION OF CORRUGATIONS VERTICAL.

698. From back of South Building. End gone. Length, 0.134 m. Diameter of upper cor-

rugation, 0.014 m. Both corrugations have light double vertical grooves, and on upper side of top corrugation circles between grooves.

Addenda to Type g. In the following the eyelets, if such existed, have been lost. This fact, and their peculiar form, renders their classification uncertain, although they probably belong to this type.

699. From back of South Building. End gone. Length, 0.056 m. Diameter of upper corrugation, 0.011 m. Rings small. Upper corrugation plain.¹

Discards of Type g: seven, of which one from south slope.

Type h. Iron pins with round rectangular and polygonal bronze heads.

FORM 1. PIN INSERTED DIRECTLY INTO HEAD WITHOUT ANY NECK.

700. Pin mostly gone. Length, 0.024 m. Diameter of head, 0.019 m. Possibly not a pin, but iron rod with knobs.

The following numbers are of more uncertain classification.

701. From south slope. Pin gone. Length, 0.0135 m. Diameter, 0.014 m. Pierced by rectangular hole, in which are remains of iron pin or rod.

702. From south slope. Pin gone. Length, 0.0135 m. Diameter, 0.0135 m.

FORM 2. PIN INSERTED INTO PROJECTION ON LOWER SIDE OF HEAD.

Pin gone in all examples of Classes α , β , γ , δ .

Class α . Round plain heads, mostly with ornament at top.

703. Length, 0.0125 m. Diameter of head, 0.01 m. Length of neck, 0.004 m. Top of head broken as though ornament had been lost. Neck has two grooves. Remains of iron pin.

704. From south slope. Ornament on head injured. Length, 0.019 m. Diameter of head, 0.0125 m. Ornament consists of four petals about a low stem.² Remains of iron pin.

705. From south slope. Ornament injured. Length, 0.021 m. Diameter of head, 0.0115 m. Filing showed color medium.

Class β . Similar to Class α , but with polygonal heads.

Group i. Hexagonal.

706. From back of South Building. Ornament injured. Length, 0.019 m. Diameter of head, 0.015 m. Lower neck has three rings, of

which central one is notched. Remains of iron pin.

Group ii. Pentagonal.

707. Ornament injured. Length, 0.018 m. Diameter of head, 0.014 m. Filing showed color medium.

708. From south slope. Length, 0.022 m. Diameter of head, 0.016 m. Ornament of five petals about a stem. Lower neck has four rings, of which second from top is notched. Sides of polygon separated by segments of original circumference.

Class γ . Similar, but with rectangular heads.

709. Length, 0.017 m. Ornament injured. Has five petals.

710. Length, 0.018 m. Ornament of five petals injured. Ring beneath notched. Neck has three rings.

711. Length, 0.022 m. Flower of four petals. Heavy ring with notching beneath. Neck has three rings. Traces of iron pin.

712. Length, 0.0225 m. Flower injured; of six petals. Ring beneath notched. Neck has three rings.

In the two following numbers the flower is modified.

713. Ornament not divided (the present fissures due to corrosion). Length, 0.0205 m. Neck has three rings. Traces of iron pin.

714. Length, 0.0175 m. Ornament injured. Neck has three rings. Remains of iron pin.

Class δ . Round and conical heads with sides ornamented. Top with or without ornaments.

Group i. With fluted sides.

715. Length, 0.02 m. Diameter, 0.0155 m. Originally probably had ornament. Sides divided by five grooves. Neck has three rings. Pin probably of iron.

716. Originally probably had ornament. Sides divided by seven grooves. Neck has large corrugation, with ring on either side. Corrugation has eight grooves. Traces of iron pin.

In the following number the grooving is continuous through head and neck, which is not sharply marked from head.

717. Top injured. Length, 0.014 m. Diameter, 0.011 m. In top round hole, in which appears short stub as of stem. Head divided into five main segments. Of these two in the lower ornament at top as imitations of pomegranates, and refers to Pausanias, II. xvii. 4.

¹ Perhaps No. 670 should be put here.

² Professor Norton regards these heads with flower

part and one in the upper are subdivided each into two smaller segments.

Group ii. With engraved sides.

(a'.) Rounded.

718. Length, 0.0155 m. Diameter, 0.0085 m. Head divided into three parts by zigzags from top to bottom. Neck has three rings, of which the upper two are notched, and below these two others, of which the upper one is notched.

(b'.) Conical.

719. Length, 0.0245 m. Diameter, 0.012 m. Head divided into four segments. On these, on lower half, run dotted lines meeting at acute angle just above middle. Dotted circle at base of each segment. Neck has three rings; centre one notched. Filing showed medium color.

Type i. Head separate and has form of animal (lion).

PLATE LXXXIV.

720. From West Building. Pin gone. Length, 0.0425 m. Below lion's head are corrugations separated from it by deep grooves, in the bottom of which low ring. Forehead of lion full, with heavy furrow down centre. Eye sockets round, with prominent brows. Nostrils marked. Muzzle marked with grooves.¹ Lower part of pin head has five corrugations, tapering concavely, and below these a rectangular block.

Type j. Ring headed.

721. From south slope. Length, 0.1165 m. Outer diameter of ring, 0.015 m. Bar of ring diamond-shaped in section. Pin broad and flat at junction with ring.²

Type k. Head consists of disk, with or without prolongation above, and, at some distance beneath it, one or two balls, or beads.³

FORM 1. NO PROLONGATION OF STEM ABOVE DISK.

Group i. Upper part of shaft round.

722. Length, 0.299 m. Diameter of head, 0.0195 m. Length of neck, 0.044 m. Much copper in pin, shown by color and flexibility.

¹ For classification see III. 5, **Type b** (p. 203, above).

² Similar (but for swelling of shaft), Montelius, *Civ. Prim. It.* pl. 15, No. 12, from Terramare of Campeggine of Reggio nell' Emilia. Age of Bronze. Cf. also *Olympia*, No. 492, which differs in having end of ring bound about shaft.

³ Pins of this type numerous at Tegea. Cf. Milchhöfer, *Athen. Mitth.* V. p. 67. Milchhöfer regards them as "Heftnadeln oder Werkzeuge für Handarbeit." He seems to consider these and the spits (according to him spindles)

Group ii. Upper part of shaft rectangular.

723. End gone. Length, 0.138 m. Diameter of head, circ. 0.011 m. Length of neck, 0.034 m. Ball oblong.

724. End gone. Length, 0.185 m. Length of neck, 0.036 m. Head concave in centre. Ring at either end of ball nearly rectangular.

Discard of Group ii.: one fragment.

FORM 2. SHAFT HAS SHORT EXTENSION ABOVE DISK.⁴

Class a. One ball.

Group i. Entire shaft round.

Extension above disk short, and so far as preserved consisting of single section.

725. End broken. Length, 0.078 m. Extension, 0.005 m. Neck, 0.015 m. Extension rather thick. Neck smaller than body. Ball nearly round, with ring at either side.

726. Present point probably not original. Length, 0.112 m. Extension, 0.007 m. Neck, 0.016 m. Extension rather flat. Neck smaller than shaft. Ball elongated.

727. Condition poor. Shaft and extension both broken. Length, 0.0525 m. Neck, 0.015 m. Neck slightly thicker than shaft. Ball nearly round, with ring at either side.

Group ii. Neck round. Upper part of shaft beneath ball rectangular.

(a'.) Thick extension, of one section, rounded at the top, and resting on low base.

728. Condition poor. Shaft mostly gone. Length, 0.054 m. Extension, 0.0075 m. Neck, 0.019 m. Ball oblate, with ring at either side.⁵

(b'.) Extension which rests on base, with flat cap on top which overhangs the tapered upper portion of the extension. Rectangular part of shaft usually ornamented with engraved zigzag and separated from round part by one or more grooves.

729. End gone. Condition poor. Length, as essentially the same class of object. — A pin of this type is in the museum at Elensis and a bundle of them in Nat. Mus., Athens, No. 10081. Example of Forms 1 and 2 are in the museum at Sparta.

⁴ The example from Boeotia now in Berlin (Boehlan, *Jahrb.* III. p. 363 g) differs in details from Argos specimens.

⁵ Cf. *Athen. Mitth.* V. pl. iv. (lower right-hand corner), from Tegea (Milchhöfer).

circ. 0.205 m. Extension, 0.008 m. Neck, 0.019 m. Ball oblate, with ring at each side. Shaft beneath, rectangle, then two shallow grooves, then rounded. Traces of zigzag on rectangular part of shaft.

730. End gone. Condition poor. Length, 0.108 m. Extension, 0.007 m. Neck, 0.024 m. Ball round, with rings. Details as in No. 729.

731. Length, 0.316 m. Extension, 0.0155 m. Neck, 0.024 m. Ball with ring at either side. Zigzag on rectangular part.

Group iii. Transition at neck, which is generally rectangular in form, but with rounded corners. Extension like Group ii., (*b'*).

732. Length, 0.227 m. Extension, 0.0065 m. Neck, 0.019 m. Traces of zigzag on rectangle. Ball slightly elongated. Material largely copper.

733. Condition poor. Length, 0.237 m. Extension, 0.007 m. Neck, 0.019 m. Possible traces of zigzag on rectangle. Material mainly copper.

734. Point gone. Condition poor. Length, 0.209 m. Extension, 0.008 m. Neck, 0.0235 m. Sides of rectangle have zigzag.

735. Length, 0.0233 m. Extension, 0.0065 m. Neck, 0.0235 m. Neck octagonal. Ball round. Probably traces of zigzag on rectangle.

Group iv. Rectangular neck, usually with corners somewhat rounded.

(*a'*) Extension has rounded top without cap.

736. Length, 0.131 m. Extension, 0.004 m. Neck, 0.013 m. Ball oblate, with ring at either end.

737. Condition poor. Pin gone. Disk damaged. Length, 0.085 m. Extension, 0.0075 m. Neck, 0.022 m. Ball with ring at either end.

The following, Nos. 738-741, have ornamentation on both neck and rectangle.

738. Length, 0.139 m. Extension, 0.0045 m. Neck, 0.023 m. Two sides of neck have zigzag. Traces of zigzag on rectangle. Good deal of copper in pin.

739. Point injured. Length, 0.228 m. Extension, 0.006 m. Neck, 0.033 m. Zigzag on two sides, and also on three sides of rectangle. Pin mainly of copper.

The two following, Nos. 740, 741, are less certainly to be put here, on account of poor condition of extensions.

740. Poor condition. Length, 0.175 m. Ex-

tension, 0.0078 m. Neck, 0.023 m.; has on two sides traces of zigzag. On all sides of rectangle traces of zigzag. Pin mainly of copper.

741. Most of pin and disk gone. Condition poor. Length, 0.092 m. Extension, 0.008 m. Neck, 0.034 m. Has on all sides zigzag, as also rectangle. Pin mainly of copper.

(*b'*) Extension has cap and usually a base.

(1') Single plain cap.

(*a'*) Neck plain. Rectangular part of body ornamented.

742. End gone. Length, 0.0234 m. Extension, 0.008 m. Neck, 0.0245 m. Traces of zigzag on rectangle. Pin of copper.

743. End and most of disk gone. Condition poor. Length, 0.186 m. Extension, 0.002 m. Neck, 0.0165 m. Traces of zigzag on rectangle.

744. Condition poor. Length, 0.057 m. Extension, 0.008 m. Neck, 0.021 m. Zigzag on rectangle.

745. From south slope. End gone. Length, 0.144 m. Extension, 0.006 m. On rectangle, traces of lines close to edges, with zigzag between. Probably largely of copper.

746. Bent into coil. Extension, 0.008 m. Neck, 0.014 m. Rectangle has two grooves at end and on one side three. Sides have frame of two lines, one close to each edge, with zigzag between.

747. End gone. Length, 0.138 m. Extension, 0.0085 m. Neck, 0.0275 m. Rectangle has two grooves at end and traces on two sides of zigzag.

(*β'*) Neck and rectangle ornamented.

(1') Extension without base.

748. End and most of disk gone. Condition poor. Length, 0.125 m. Extension, 0.0055 m. Neck, 0.024 m. Has on two sides traces of zigzag. Rectangle terminates with two grooves; on sides traces of zigzag.

749. End gone. Condition poor. Length, 0.1825 m. Extension, 0.0075 m. Neck, 0.022 m., with traces of zigzag on all sides. Rectangle with grooves at end and traces of zigzag.

(ii') Extension has no base, but has a double link.

750. End gone. Condition poor. Length, 0.099 m. Extension, 0.009 m. Neck, 0.02 m. Rectangle has probably two grooves at end. Traces of zigzag on two sides of neck and rectangle.

750 a. From south slope. Condition poor. Length, 0.045 m. Extension, 0.0085 m. Neck, 0.019 m. Sides taper slightly toward top. Traces of zigzag on three sides of neck, also on three sides of rectangle.

(iii'.) Extension has base, link, and cap.

751. End gone. Condition poor. Length, 0.133 m. Extension, 0.006 m. Neck, 0.0235 m., with sides tapering toward top. Probably double groove at end of rectangle, sides of which taper downward. Traces of zigzag on neck and rectangle. Pin mostly of copper.

752. End gone. Condition poor. Length, 0.187 m. Extension, 0.008 m. Neck, 0.022 m., with sides increasing toward either end, and zigzag on all four. Rectangle has two grooves at end, and zigzag on sides.

753. Most of shaft gone. Condition poor. Length, 0.083 m. Extension, 0.008 m. Neck, 0.032 m., with zigzag on sides and line along edge; and on one side part way down centre. Sides of rectangle taper downward. Traces of zigzag.

754. End gone. Condition poor. Length, 0.169 m. Extension, 0.0075 m. Neck, 0.028 m., with traces of zigzag on three sides. Rectangle has two grooves at end, and lines around edges of sides, inclosing zigzag.

755. From above last part of Stoa, under Cyclopean wall, 1893. Point injured. Length, 0.26 m. Extension, 0.01 m. Neck, 0.0265 m., with sides tapering toward top. Probably traces of zigzag on one side. Rectangle has groove at end, and zigzag on all sides. Material mainly copper.

756. End gone. Length, 0.209 m. Extension, 0.008 m. Neck, 0.003 m., tapering slightly upward, with zigzag on sides, and traces of framing line along edges. Rectangle has three grooves at end and zigzags, with framing line as on neck. Material mainly copper.

757. Point dull. Length, 0.2635 m. Extension, 0.0085 m. Neck, 0.0275 m., with zigzag on sides, and traces of framing line. At end of rectangle, two grooves. Sides of rectangle taper downward and have zigzag and traces of framing line. Material largely copper.

758. From West Building. End gone. Length, 0.142 m. Extension, 0.028 m. Neck, 0.017 m., with sides tapering toward top, and traces of zigzag. Rectangle with sides tapering downward, and traces of zigzag.

759. End gone. Length, 0.157 m. Extension, 0.0075 m. Neck, 0.022 m.; tapers slightly upward; traces of zigzag. Rectangle tapers downward; traces of zigzag.

760. Point injured. Length, 0.192 m. Extension, 0.009 m. Neck, 0.0195 m.; tapers slightly toward top. Traces of zigzag. Rectangle tapers downward; has traces of zigzag. Material largely copper.

761. Point injured. Length, 0.212 m. Extension, 0.0065 m. Neck, 0.0315 m., with traces of zigzag. Rectangle tapers downward, with traces of zigzag. Material largely copper.

762. End gone. Condition poor. Length, 0.233 m. Extension, 0.01 m. Neck, 0.031 m., tapering toward centre from both ends, and with traces of zigzag. Rectangle has groove at end, and zigzags.

763. Condition poor. Length, 0.235 m. Extension, 0.008 m. Neck, 0.022 m., tapering from top for short distance. Zigzag on all sides. Rectangle has two grooves at end and zigzag on all sides.

764. From south slope. Most of shaft gone. Condition poor. Length, 0.067 m. Extension, 0.0085 m. Neck, 0.0215 m. Tapers upward. Zigzag on sides, also on sides of rectangle.

765. Length, 0.319 m. Extension, 0.0105 m. Neck, 0.035 m., tapering from ends toward centre, with zigzag on sides. Same ornament on sides of rectangle. Material largely copper.

766. Point injured. Condition poor. Length, 0.262 m. Extension, 0.01 m. Neck, 0.026 m., tapers from ends to centre, with zigzag on sides. Rectangle has two grooves at end and zigzag on sides. Material largely copper.

767. End gone. Length, 0.2 m. Extension, 0.0095 m. Neck, 0.0315 m., tapering from bottom up, and with zigzag on sides. Rectangle has two grooves at end, and zigzag on sides. Material largely copper.

768. End gone. Length, 0.169 m. Extension, 0.0095 m. Neck, 0.033 m., tapers upward from base. Traces of zigzag on two sides. Rectangle has zigzag. Material largely copper.

769. End coiled, but pin complete. Extension, 0.01 m. Neck, 0.0365 m., tapering from ends to centre. Traces of zigzag on sides, also on rectangle. Material as above.

770. Length, 0.342 m. Extension, 0.0175 m. Neck, 0.034 m., with zigzags. Zigzags also on rectangle.

771. Pin mainly gone. Condition poor. Length, 0.098 m. Extension, 0.011 m. Neck, 0.035 m., tapers from ends to centre, with traces of zigzag. Rectangle tapers downward, traces of zigzag.

772. End gone. Condition poor. Length, 0.265 m. Extension, 0.0125 m. Neck, 0.039 m., tapers from top toward centre, with traces of zigzag. Rectangle tapers downward, with traces of zigzag. Material largely copper.

773. End gone. Length, 0.205 m. Extension, 0.01 m. Neck, 0.033 m., tapers from ends toward centre. Rectangle tapers downward. Both neck and rectangle with zigzags. Material largely copper.

774. End coiled, like No. 746. Extension, 0.012 m. Neck, 0.03 m., with zigzags, as also rectangle, which tapers downward. Material largely copper.

The following number has double ring on each side of ball.

775. End gone. Condition poor. Length, 0.302 m. Extension, 0.0065 m. Neck, 0.027 m. The rings farthest from ball, on each side, form ends of neck and rectangle, which tapers downward. Zigzags on neck and rectangle. Two grooves at end of rectangle.

(iv'). Extension has base and cap.

776. Most of shaft gone. Condition poor. Length, 0.054 m. Extension, 0.007 m. Neck, 0.0305 m., tapers from ends to centre. On neck and rectangle, traces of zigzags. Material mostly copper.

777. Most of pin gone. Condition poor. Length, 0.085 m. Extension, 0.0085 m. Neck, 0.033 m., tapers from ends toward centre. Traces of zigzag, as also on rectangle, which tapers downward. Material mostly copper.

Uncleaned addenda to (1').

778. End gone. Condition poor. Length, 0.12 m. Extension has base, two links, and cap. Length of extension, 0.011 m. Neck, 0.029 m., tapers toward top. Rectangle tapers downward.

779. End gone. Condition poor. Length, 0.137 m. Extension, 0.0182 m., has base, three links, and cap. Neck, 0.025 m. Rectangle tapers downward.

780. Point gone. Condition poor. Length, 0.177 m. Extension, 0.016 m., consists of base, two or three links, and cap. Neck, 0.038 m., with centre smaller than ends.

(2'.) Double cap, also base, link (or links).

Both neck and rectangle ornamented.

781. Point gone. Condition poor. Length, 0.217 m. Extension, 0.008 m. Neck, 0.0235 m. Cap double or grooved. Rectangle has traces of zigzag.

782. Length, 0.133 m. Extension, 0.0075 m. Neck, 0.023 m., tapers from bottom upward. Rectangle tapers downward, with groove at lower end. Neck and rectangle have zigzags. Material largely copper.

783. End gone. Condition poor. Length, 0.159 m. Extension, 0.0095 m. Neck, 0.029 m. Rectangle tapers downward, has two grooves at lower end. Neck and rectangle have zigzag within frame. Material largely copper.

The following three numbers probably belong here, though they could possibly go with following *Class β*.

784. From south slope. Most of shaft gone. Condition poor. Length, 0.052 m. Extension, 0.0075 m. Neck, 0.024 m. Zigzag (traces) on neck and rectangle (broken).

785. Broken at neck. Condition bad. Length, 0.036 m. Extension, 0.008 m. Neck, 0.026 m. Traces of zigzag.

786. From West Building. Broken at lower end of ball. Condition poor. Length, 0.061 m. Extension, 0.013 m. Neck, 0.035 m. Extension has double ring between base and link. Two rings above the ball, of which upper is end of neck. Traces of zigzags.

Uncleaned addendum to (2'). Doubtful.

787. Point gone. Condition poor. Extension, 0.0175 m., consists of base, four small corrugations, and cap. Neck, 0.035 m. Rectangle tapers down.

(3'.) Triple cap.

788. Uncleaned. Broken. Condition bad. Length, 0.09 m. Extension, 0.0088 m. Neck, 0.021 m. Double ring on each side of ball.

Class β. Two balls.

Group i. Neck and section between balls round. Beneath lower ball rectangle.

Extension with base, link, and cap.

789. Point probably not original. Length, 0.289 m. Extension, 0.008 m. Upper neck round, with length, 0.023 m. Lower neck has six unequal sides, 0.011 m. Ring at either side of each ball. Grooved at lower end of rec-

tangle. Traces of engraved lines on sides of rectangle.

Group ii. Both necks rectangular. Beneath lower ball, rectangle.

Extension with base, link, and cap.

790. End gone. Length, 0.22 m. Extension, 0.0075 m. Upper neck, length, 0.0235 m. Tapers for short distance from bottom. Lower neck, 0.0145 m. Ring on each side of balls. Rectangle below lower ball tapers. Traces of zigzag on one side of upper neck, and of frame and zigzag on lower neck. Material chiefly copper.

791. Pin mainly gone. Condition poor. Length, 0.11 m. Extension has link also above ring; length, 0.012 m. Upper neck, length, 0.034 m. Lower neck, 0.012 m. Rectangle tapers downward. No trace of ornament left on necks; trace of zigzag on rectangle.

Addenda to Type k (Nos. 792-807).

i. The following cleaned fragments are interesting chiefly because the provenience of many is known.

(a'.) Disk preserved.

792. From south slope. Extension, disk, and neck. Length, 0.04 m. Length of extension, 0.0065 m. No certain traces of ornament.

793. Broken at bottom of ball. Length, 0.045 m. Length of extension, 0.0065 m. Length of neck, 0.023 m. Traces of zigzag on neck.

794. From back of South Building. Broken at neck. Length, 0.024 m. Length of extension, 0.0115 m.

795. From West Building. Broken at neck. Condition poor. Length, 0.026 m. Length of extension, 0.0105 m.

(b'.) One ball with piece at each side. —

While a doubt is possible whether these pieces belong here rather than under *spits*, they are, mainly, quite certainly pins, because of the relative smallness of the necks as compared with the rectangle.

796. Fragment of neck, ball, and rectangle. Length, 0.086 m. Elongated ball. Rectangle has groove at lower end, and zigzag on sides. Material largely copper.

797. Fragment as No. 796. Length, 0.074 m. Oblong ball with ring at each side. Rectangle tapers down, and has traces of zigzag on all sides.

798. From south slope. Fragment as No. 796. Length, 0.088 m. Ball elongated. Rectangle tapers down, and has traces of zigzag. Material largely copper.

799. Fragment as No. 796. Length, 0.104 m. Ball has ring at each side. Rectangle tapers for short distance down. Zigzag on rectangle; probably also on neck.

800. From first chamber at east end of terrace below Cyclopean wall, 1893. Fragment as No. 796. Condition bad. Length, 0.043 m. Ball has ring at either side. Rectangle has three grooves at end. No trace of ornament remains.

801. From back of South Building. Fragment as No. 796. Condition poor. Length, 0.061 m. Ring above ball. Probable traces of zigzag on neck.

802. From south slope. Fragment as No. 796. Length, 0.054 m. Ball elongated with ring at either end. Two grooves at lower end of rectangle. Traces of zigzag within frame on neck and rectangle.

803. Fragment as No. 796. Condition poor. Length, circ. 0.185 m. Slightly oblate ball with ring at either side. Rectangle ended by groove and tapers slightly downward. No certain traces of ornamentation on neck. Traces of frame on rectangle. Material largely copper.

ii. The following uncleaned pieces probably belong under FORM 2, *Class a*, Group iv.

804. Extension, disk, and piece of neck. Condition poor. Length, 0.035 m. Extension has three grooves near bottom, with coarse screw-threading above. Length of neck, 0.016 m. Owing to small size, probably had one ball.

805. Extension, disk, and piece of neck. Condition poor. Extension has horizontal threading at bottom, and coarse screw-threading above. Length, 0.017 m. Length of neck, 0.016 m. Sides of neck taper for a little way from top, and then enlarge. Owing to small size, probably had one ball.

806. Extension, disk, and part of neck. Condition poor. Length, 0.0435 m. Neck, 0.028 m.; probably had one ball. Extension consists of base, $3\frac{1}{2}$ corrugations (lowest runs only half-way round), and cap. Length, 0.0175 m.

807. End gone. Disk injured. Condition poor. Length, 0.168 m. Extension consists of base, three links, and cap. Between links a single ring (two rings in all). Length, 0.017 m. Length of neck, 0.0285 m. Ball with ring at either side. Rectangle tapers slightly downward.

Discards of Type k: cleaned pieces and fragments, fifteen, of which three from south slope; uncleaned pieces and fragments, one hundred and sixty-two.

B. SAFETY-PINS.

DIVISION I. SIMPLE HEAD.¹**Type a. High bow. Short foot (simple hook).**

808. Uncleaned. Foot and end of pin gone. Condition poor. Length, 0.078 m. Height, 0.062 m. Consists of single piece of heavy bronze wire. Pin tapers gradually. Twists in wire accidental. Originally probably end of spit, but use as safety-pin indicated by shape. Somewhat doubtful owing to shortness of pin.

809. Uncleaned. Pin broken. Condition poor. Wire slightly thicker at head and foot than elsewhere. Never had coil. Distance between legs (outside), 0.035 m.

Type b. Medium high bow. Long pin. Somewhat doubtful.

810. End of pin gone. Condition poor. Most of hook gone. Length, 0.057 m. Height, 0.0189 m. Pin projects beyond foot. Of single piece of wire. Probable use as fibula shown by shape of bow.

DIVISION II. SPIRAL HEAD.

Type c. Flat bow. Plain.²

811. Uncleaned. Fragment of bow and coil. Condition poor. Length, 0.0833 m. Wire in head much smaller than in bow.

Somewhat doubtful whether the following number belongs here.

812. Uncleaned. End of bow and part of coil gone. Length, 0.0605 m. Bow rectangular near coil. Wire of coil smaller than bar.

Type d. Flat bow of sheet bronze to which some object was formerly attached.³**FORM 1. WITH HOOK AT FOOT.**

813. Complete except for the loss of ornament. Length, 0.052 m. Height, 0.0101 m.

¹ An analogy to this form of head may be seen in certain bronze fibulae from Bologna (Benaeci II.) of horned snake type, in which head is represented only by a swelling or knob. These, however, stand at the end of a development, not at the beginning. Montelius, *Civ. Prim. It.* pl. 79, figs. 13, 15, 16. Similar with disk instead of ring, *ibid.* pl. 83, figs. 20, 21 (Arnoaldi). A closer parallel is offered by a pin of fibula bent to form safety-pin from Sikel village near Matera in Apulia, published by Patroni, *Mon. Ant. Linc.* VIII. col. 497, 507, fig. 107. Other fibulae without coil, partly of secondary use, *Brit. Mus. Cat. of Bronzes*, Nos. 1944 f., 1935.

² Cf. fibulae from Mycenae, chamber tombs, 'Εφην. 'Αρχ. 1888, col. 167, pl. 9, Nos. 1, 2 (Tsountas).

³ With **Type d**, cf. Montelius, *Civ. Prim. It.* pl. 8, Nos. 5-7, from lato dwelling of Peschiera. These, however,

Near end of flat piece, two rivets, projecting above slightly, but flattened to under surface. Material largely copper.⁴

FORM 2. WITH DISK AT FOOT.

814. Coil broken. Disk injured. Length, 0.0695. Rivets as in No. 813. Disk seems to have been leaf-shaped and convex.

Type e. Flat bow, consisting of broad band.

815. Coil gone. Condition poor. Length, 0.071 m. Material largely copper.

816. Band, with foot and coil mainly gone. Length, 0.025 m. Probably a simpler form of pins of following type.⁵

Type f. Flat bow, which consists of two connected spirals.

817. Condition bad. From south slope, below Second Temple, 1893. Broken. Pin gone. Length, 0.075 m.

PLATE LXXXV.

818. From cutting above Upper Temple, toward tents, 1893. Part of pin now gone. Length, 0.1245 m. Entire pin made of single piece of wire, which is diamond-shaped except hook and bar. These latter are round. Material largely copper.⁶

PLATE LXXXIV.

819. Only coil of foot preserved. Length, 0.0235 m.

820. From West Building. Foot only preserved. Wire is diamond-shaped. Length, 0.029 m.

821. From West Building. Only a fragment preserved. Wire diamond-shaped.

822. From northwest corner of Old Temple, 1893. Only a fragment preserved.

It is uncertain whether the following numbers belong here.

823. From West Building. Condition poor. Wire diamond-shaped.⁷

have no attached ornament, and are otherwise somewhat different. Flat bow, *Olympia*, pl. xxi. No. 343.

⁴ Very like fibula from Lusi, *Jahresh.* IV. p. 52, No. 76 (Reichel and Wilhelm). Cf. fibula from Suessula, *ibid.* VI. p. 113, fig. 58 (Hadaček).

⁵ Perhaps Nos. 815 and 816 are to be regarded as ornamental strips of sheet bronze, e. g. diadems. Cf. *Olympia*, Nos. 313 and 315 ff.

⁶ Cf. Montelius, *Civ. Prim. It.* pl. 21, No. 283, from southern Italy. Exactly similar in shape, but to judge from drawing, made of rounded wire. Cf. also *Olympia*, No. 359, and Boehlau, *Jahrb.* III. p. 363 b, from Boeotia. Double-coiled spiral fibula, *Nat. Mus., Athens*, No. 8196.

⁷ Cf. coils from Sikel village in Apulia. *Mon. Ant. Linc.* VIII. col. 471 (Patroni).

PLATE LXXXV.

824. Broken at both ends. Length, 0.125 m. Wire diamond-shaped. Color medium.

825. Fragment. Not certain that it is piece of a fibula. Condition poor. Small coil of wire, oval in section.

Type g. Plain rounded high bow. Foot a narrow hook.

FORM 1. TRANSITIONAL MODIFICATION OF STRAIGHT BOW.

826. From south slope. Foot and point gone. Length, 0.046 m. Entire pin of one bit of round wire of nearly uniform size.

FORM 2. HIGH BOW.

827. End of pin gone. Length, 0.079 m. Height, 0.0535 m. Of one bit of metal. Bow oval and uniform in size.

FORM 3. LOW BOW.

Class a. Bow of uniform size.

828. Fragment. Condition poor. Length, 0.0615 m. Height, 0.0365 m. Of one bit of metal. Bow of wire slightly oval in section. Foot forms triangular blade.

829. From West Building. Fragment. Length, 0.375 m. Height, 0.0215 m. One bit of metal. Wire of uniform size.

830. Still flexible. Length, 0.038 m. Height, 0.017 m. Bow uniform in size and of wire slightly oval in section. Wire of pin larger than in spiral. Hook low and open.¹

Class β. Slight swelling in arch of bow.

831. Fragment. Length, 0.054 m. Has hook on left² side. Swelling in bow to left of centre. Color dark.³

Type h. High bow. Long foot coming to a point.

FORM 1. ROUNDED WIRE.

Class a. Uniformly thick wire.

The following is of transitional type, the foot being as yet only partially developed.

832. Uncleaned. Most of foot and pin gone. Condition poor. Length, 0.0625 m. Height, 0.025 m. Form of foot uncertain.

Class β. Bow thickens toward centre.

833. Foot gone. Length, 0.081 m. Height,

¹ Cf. fibula from Lusi, published by Reichel and Wilhelm, *Jahresh.* IV. p. 52, No. 75.

² Left as one holds fibula with head toward one.

³ Cf. Montelius, *Civ. Prim. It.* pl. 5, No. 41, from Chiuse, and pl. 50, No. 2, from Este (period I.). The latter has ring passing through head.

⁴ Cf. Montelius, *Civ. Prim. It.* pl. 8, No. 85 (Villanova).

⁵ Cf. Montelius, *Civ. Prim. It.* pl. 8, No. 84 (Villanova).

0.0315 m. Single piece of metal. Hook on left side. Bar oval in section, the broad surfaces being on sides near foot, but on top and bottom near head.⁴

FORM 2. RECTANGULAR WIRE.

834. Found west of Second Temple. Length, 0.0665 m. Height, 0.0215 m. Foot a long thin blade with left side bent up to form hook. Color medium dark.⁵

835. Uncleaned. Fragment. Condition poor. Length, 0.0865 m. Hook on left side.

Type i. High bow. Rectangular blade at foot forming one piece with bar. Bar rounded.

FORM 1. BAR OF UNIFORM SIZE.

836. Head and pin gone. Length, 0.066 m. Height, 0.039 m. Bar oval, with broad surface at side. Hook on right side.

FORM 2. BAR THICKER AT MIDDLE. BOW SOMEWHAT LOWERED.

837. Fragment. Condition poor. Length, 0.07. Bar as that of No. 836.

Addenda. It is uncertain to which of the **Types g, h, i**, the following belong.

838. Fragment. From south slope. Shape of bow indicates it is a fibula. Length, 0.054 m.

839. Fragment. Length, 0.0475 m. Wire slightly oval.

840. Fragment of coil and bow. Length, 0.031 m.

841. Fragment shown by shape to be fibula. Length, 0.0665 m.

842. Fragment. Length, 0.061 m. Oval wire.

843. Fragment. Length, 0.06 m. Centre of bow broad and thick. Three grooves on either side of centre.

Type j. High bow. Rope wire.⁶

844. Head and pin gone. Length, 0.07 m. Height, 0.05 m. Grooves in wire broad and shallow.⁷

845. Most of pin and foot gone. Length, 0.047 m. Bow has four screw-threadings. Wire flattens where it passes into coil. Head on right side. Bow of uniform size.

846. Uncleaned. Pin and foot gone. Length,

⁶ Cf. the very similar Italian type, Montelius, *Civ. Prim. It.* pl. 5, No. 40 (Bismantova).

⁷ Cf. twisted bronze wire used in straight fibula from Mycenae (outside shaft-graves), No. 2563. 'Εφημ. 'Αρχ. 1888, pl. 9, No. 1 (Tsountas). Similar pins from Lusi, *Jahresh.* IV. p. 52, Nos. 78, 79 (Reichel and Wilhelm), and from Kavousi, from tomb of first part of the iron age, *Am. Jour. of Arch.* Second Series, V. p. 136 (Harriet A. Boyd).

0.071 m. Height, 0.0275 m. Bow of uniform size, with four threadings. Head on right side.

Type k. High bow with one or more loops.

FORM 1. ONE LOOP.

Class α. Plain round bar.¹

847. Uncleaned. Pin complete. Length, 0.058 m. Height, 0.032 m. Of single piece of round wire, which flattens at foot and tapers at point. Hook low.

Class β. Bar partially rectangular.

Group i. Rectangular swelling near foot, or head, or both.

848. Uncleaned. Head and foot gone. Condition poor. Length, 0.0585 m. Height, 0.0325 m. Loop in bar near head; between loop and foot, bar swells.

849. Uncleaned. Head gone, foot injured. Condition poor. Length, 0.0595 m. Height, 0.043 m. Bar round, with loop slightly forward of centre, swelling near head. Another swelling between loop and hook.

Group ii. Bow in part rectangular and in part round, with screw-threadings.

850. Uncleaned. Fragment. Condition poor. Length, 0.0475 m. Height, 0.031 m. Bar with four threads. On shorter side of loop, bar rectangular. Not certain this is fibula, but probable from shape.

Group iii. Wire rectangular in loop; elsewhere round. Only example uncertain.

PLATE LXXXVI.

851. Uncleaned. Fragment. Condition poor. Length, 0.031 m. Height, 0.061 m. Nearly uniform rounded wire, becoming rectangular at 0.017 m. from top. Head large and rudely coiled; owing to bend of wire at rectangular part, uncertain that pin belongs in this type. Possibly it compares with the others as the head in DIVISION I. with that of the other Divisions.

FORM 2. DOUBLE LOOP.

852. Uncleaned. Fragment. Condition poor. Length, 0.0665 m. Rounded wire with slight swelling just back of loops, perhaps due to oxidation. Upper loop largest.

Type l. More advanced. Sharp inward bend from angle of bow. Bar has three

reinforcements on each side, opposite each other, one pair at each of the outer curves and one at the inner angle.

853. Foot, pin, and part of head gone. Length, 0.06 m. Bar consists of two arches, the angle of connection being nearly right angle. Originally probably two full rings in coil. Coil and bar probably one piece. After forward reinforcement, the broader side of bow becomes the narrower, and *vice versa*, indicating commencement of foot.

Type m. Similar, but one of reinforcements has form of dumb-bell.

854. Fragment. Length, 0.0435 m. Two arches connected by heavy inverted arch. At top of left arch dumb-bell. Bar between here and coil, oval in section. The right or foot end seems to have a groove on top. Resembles serpent's head, but probably accidental.²

Type n. Single arch, having form of inverted boat. Geometric ornamentation.

FORM 1. SOLID.

855. From back of South Building. Head, pin, and part of foot gone. Length, 0.0245 m. The metal oval-shaped, broad side being up. Sides have cleft between, which leads one to suspect that pin may not be solid. Top of pin engraved with fine and rather faint diagonal lines arranged in three fields, centre and ends.

FORM 2. HOLLOW.

856. Head and foot gone. Length, 0.025 m. Opening in under side roughly triangular. Top engraved with diagonal lines running from centre rib, starting on each side of middle of bow, which is left plain.³

857. Head and foot gone. Condition poor. Length, 0.0335 m. Commencement of tail leading to coil is preserved. Engraved with lines running from central rib to sides.

Type o. Sail or saucer pattern.⁴

858. From east of Temple, 1894. Fragment. Length, 0.077 m. Bow of three nearly round, shallow connected sancers, having their longer axis in line with axis of bow. Very slightly raised narrow band runs along the longer axis. Commencement of blade of foot.

¹ With this form in general, cf. the essentially different Italian style. Montelius, *Civ. Prim. It.* pl. 16, No. 219; also *ibid.* pl. 72, No. 17, from Bologna (S. Franceseo). The example *Olympia*, No. 353, is more like the Italian.

² Cf. Montelius, *ibid.* pl. 17, No. 242 (S. Franceseo, Bologna). Curve of pin probably different. Somewhat similar, *Olympia*, No. 356, with two pairs of horns.

³ Cf. *Olympia*, pl. xxi. No. 350.

⁴ Large engraved example of this type, *Olympia*, No. 364. Another in Berlin from Boeotia, *Jahrb.* III. p. 362 (Boehlau), with engraved plate. Another, *ibid.* p. 363 (e), without pinching of bow, i. e. *navicella*.

The following numbers are fragments of pins of this type, and of types more or less similar as regards the general shape of the bow.

859. Uncleaned. Fragment. Length, 0.0365 m. Bar flat and diamond-shaped. Tapers downward. Part of coil preserved.

860. Uncleaned. Fragment. Length, 0.047 m. Bar diamond-shaped in section. At upper end, knob attached to stem by short thick neck.

861. Part of upright, with short piece of bow. Length, 0.052 m. Five low raised rings at bend.

862. Upright, commencement of coil, and beginning of bow. Length, 0.0655 m. Upper side has fine engraving.

863. Fragment. Length, 0.0815 m. Diamond-shaped in section, tapering downward.

864. Fragment. Upright, with beginning of head and bow. Length, 0.094 m. Diamond-shaped in section, and tapers downward. Outer side of upright engraved in geometric style, with zigzags and diamond-patterns in fields. Neck between upright and bow. Commencement of bow engraved with straight and zigzag lines running lengthwise.

865. From West Building. Fragment, as No.

864. Length, 0.122 m. Diamond-shaped upright, tapering downward. Between upright and bow, neck, similar to but smaller than that of No. **864.** Bow engraved similarly to that of No. **864.**, as is also outer side of upright.

866. Fragment. Piece of upright and bow (probably). Length, 0.043 m. Upright round. Upper portion of bar rectangular. Bow flat and flaring.

867. Fragment. Part of bow and foot. Length, 0.055 m. Bow engraved on upper side. Neck similar to that of Nos. **864** and **865.** Blade engraved on both sides with geometric patterns, inclosed in fields.

868. End of bow and most of foot preserved. Length, 0.069 m. Middle portion of upper side of bow ornamented with straight lines. Edge seems to have had similar engraving. Neck with usual form. Blade of foot attached nearly at right angles. Both sides engraved with geometric designs inclosing a principal field, in which, on one side, head and neck of horse, on the other, probable traces of head.¹

¹ Cf. *Olympia*, Nos. 362, 362 a, with engraved geometric designs. *Jahrb.* III. p. 250 (Furtwängler), and pp. 361 ff. (Boehlau), 'Εφημ. 'Αρχ. 1892, pl. xi. No. 1 a (Wolters).

Type p. Ball and hook. Hook flat.

FORM 1. ONE BALL.²

Class α. Upright round throughout.

869. Pin and hook gone. Length, 0.052 m. Height, 0.033 m. Ball slightly oblong. Upright joined to ball by ring and groove. Upright has four grooves in middle and others next head. Wire flat in coil. Possible that this pin belongs under the following **Type q.**

870. This probably belongs here, though not certain, as end of upright is gone. Length, 0.042 m. No neck between ball and upright, which has fine grooving. Foot attached to ball directly, and at end has three grooves.

Class β. Upper part of upright round, lower part rectangular or diamond-shaped.

Group i. Round part plain, faintly grooved or jointed.

871. Pin, part of foot and coil gone. Condition poor. Length, 0.055 m. Small ring on either side of ball. Coil and upright of one piece. A rivet-headed iron nail passes through coil, but is broken on each side.

872. Fragment. End of foot and of upright gone. Length, 0.0715 m. Upright tapers downward, and has four slight grooves 0.003 m. from ball. On shoulder four more, and four more at end of foot.

873. Fragment. Pin, coil, and part of foot gone. Length, 0.086 m. Height, 0.051 m. On right side of ball a round opening, with central part sunk much more deeply than outer part; also edge of central hole narrower than diameter of hole itself. Depth of hole, 0.0075 m. Probably served for insertion of ornament. Upright plain, except for raised narrow ring near shoulder. Similar ring on other side of ball.³

Group ii. Round part of bow corrugated.

874. Fragment. Pin, coil, and most of foot gone. Length, 0.0365 m. Oblong rounded swelling, with sides meeting in obtuse angle. On bow, at each side of swelling, eight small corrugations.

875. From back of South Building. Fragment as No. **874.** Length, 0.0685 m. On head side of bow twelve corrugations, that nearest ball being high and narrow and serving as collar; the rest diminish irregularly downward. Small col-

² Cf. fibulae from Thera, *Ath. Mitth.* XXVIII. p. 232 (Pfuhl).

³ Very similar to *Olympia*, No. 368, which has ball with disk at either side.

lar at beginning of rectangle, while at lower end the rectangular portion curves and flattens to form coil. On foot side of bow, four corrugations, of which outer two are thinner and serve as collar next to ball and flat part of foot.

Addendum to FORM 1. It is not certain to which class of the above the following belongs, owing to its poor condition.

876. From south slope. Fragment. Ball, short piece of foot, and bar on head side preserved. Length, 0.026 m.

FORM 2. THREE BALLS.

877. From West Building. Fragment of bow. Condition poor. Length, 0.0565 m. Oblate ball with much smaller ball on either side. Two small rings between balls. On head side of bar four rings, above which the upright has diamond-shaped section, and tapers down. The upper (outer) surface is worked flat. Near coil is a rivet. Probably coil was separate piece. Foot is connected with balls by neck and rings. — It is quite possible that this pin belongs under the following **Type q**.¹

878. Fragment of bow. Condition poor. Length, 0.046 m. Balls oblate, with ring between them. Upright has small ring next to ball and eight corrugations beyond, — whether there were more originally is uncertain. Corrugations taper down in diameter, but thickness remains constant except of lowest, which is thinner. Flat part of foot begins at ball. — Possible that this pin belongs under the following **Type q**.

Type q. Ball and blade, which is a development of the flat hook of the preceding Type.

879. From cutting above Upper Temple toward tents, 1893. Nearly perfect, though corroded. Length, 0.087 m. Height, 0.052 m. Hook on left side. Ball oblate. Upper side of bar above ball has five ridges and is of oval form. Coil of two twists, and on bar, at beginning of coil, five faint grooves. Between ball and blade, eight ridges on upper side of bar. Hook formed by roll of lower edge of blade. Height of blade on inner edge, 0.043 m., outer edge, 0.0495 m. Width, 0.04 m.²

Type r. Three-sided solid body with hook. Hook flat.

880. From southwest of Second Temple near wall. Coil, pin, and foot gone. Length, 0.052 m.

Body solid, with upper sides convex and lower side concave. From middle of top projects small broken knob. Raised ring at each end of body, that on head side having oblique threading. Body projects beyond head-ring and has end worked down to form beginning of coil. Foot consists of round block and thin, flat commencement of hook. — Fact that coil seems to begin so close to body renders it unlikely that the hook had developed into the large blade of the following type.

Type s. Three-sided solid body with blade. PLATE LXXXVII.

881. Coil, pin, and hook gone. Body probably solid, with lines of top and bottom nearly straight. From centre body tapers toward either end. Upper surface of sides concave, lower surface slightly convex. On plain oval standard on centre of top stands a conventionalized bird.³ The upright, rectangular in section, with outer sides concave and inner sides convex. Three grooves on outer sides at top. Below, three similar grooves, below which the metal is worked thin, and in the thin part small hole with trace of a second. Uncertain how long this thin part was, but to it the head and pin were riveted. The rectangular blade joins body directly, the join being marked by a ring: height, 0.048 m., width, 0.028 m. At outer top corner, an elliptical standard of two rings and a bead on which stands a bird.

Type t. High bow, corrugated, tapering toward head and feet.

882. Head, pin, and most of foot gone. Length, 0.057 m. Height, 0.039 m. Corrugations about same size except at centre, which has one wider with two narrower on each side. In head end of bow, hole for insertion of wire coil.⁴

Type u. High bow ornamented with corrugation bands and rings. Inserted heads.

FORM 1. ROUND CORRUGATIONS AND RINGS UNDECORATED.

Class a. Corrugations and rings in three groups, one at centre and one at either end of bow.

Group i. Wide top of foot. At head and centre, groups of two corrugations and three rings, at foot three corrugations with ring above.

883. From east of Temple, 1894. Length,

¹ Simpler but similar is *Olympia*, No. 367.

² Other fibulae of this shape from temple of Athena Cranaea near Elateia. *B. C. H.* XII. pp. 57 ff. (P. Paris).

³ Cf. *Brit. Mus. Cat. of Bronzes*, No. 150.

⁴ Differs somewhat from fibulae of *sanguisuga* type, e. g. Montelius, *Civ. Prim. It.* pl. 75, Nos. 1, 2. (Bologna, Benacci I.) Cf. Mycenae, outside tombs, No. 1349, with ribbed high bow.

0.07 m. Height, 0.049 m. Wire of head flattened slightly in coil. Groove along each shoulder of bow, and two lower rings at head grooved. In back of hook, two vertical grooves. Right side of pin less carefully finished than left.

Group ii. Masses at centre and head have two corrugations with ring at either side; at foot, one corrugation with ring at each side. Foot broad.

884. Head and pin gone. Length, 0.0575 m. Height, 0.032 m. All corrugations have oblique threading, and all rings grooved. Traces of iron rust in hole in head. Lower edge of foot uninjured in central part. Outer edges broken about rivet-holes, between which is a rivet, probably for the attachment of hook.

Group iii. Bands with rings at either side. Foot about same width as bar.

885. Half of pin gone. Length, 0.043 m. Height, 0.037 m. The raised bands divided into broader central one, with two outer narrower ones; at foot, three outer ones below. Back of foot ornamented with line on each side converging toward bottom. Hook on right. For band between grooves, cf. No. **569**.

Group iv. Each ornament consists of raised corrugation-band with grooved ring at either side. Top of foot wide.

886. Head and pin gone. Length, 0.034 m. Height, 0.0265 m. Projecting top of foot turns down at ends. Grooves in rings of head and foot heavier than in centre. Two vertical grooves on back of foot. Ornament at centre of bow and at head not carefully finished; on left side some of engraved lines not carried through.

887. From below Upper Temple, east of Chambers, 1894. Pin gone. Rings at sides of centre corrugation have three grooves; those at foot and head only two. The left side of all not carefully finished. Foot has wide top, and two vertical lines on back near edge. Hook was on left. (For band and rings cf. Nos. **569** and **666**.)

888. Length, 0.0511 m. Height, 0.0415 m. Completely preserved but corroded. Central band at top has fine cross-grooving, and rings at side two grooves each. Similar at head and foot. Pin inserted into hole in head, but hole is too big, so pin is wedged in; or else end of pin is bent back so as to form wedge. Coil has two twists. Hook, which is on right, has extension at top and two vertical grooves at back. Pin seems less carefully finished on right.

Group v. Ornaments consist of central band, with heavy ring at either side. Rings higher than band. Bow between ornaments has fine threading.

889. Fragment. Length, 0.028 m. Threading seems to be confined to left side, which indicates that hook was on right.

Class β. Main ornaments as in Class α, but with one or more rings or subsidiary corrugations, or both, between central and end ornaments.

Group i. Secondary ornaments consist of single ring at each side of central ornament, which consists of two or more ring-corrugations side by side with ring outside of each. End ornaments have also ring between the corrugations.

890. From south slope, 1894. Length, 0.043 m. Height, 0.0355 m. Ornamentation less careful on right side, where is also hook, which has usual grooving.

Group ii. Secondary ornament like that of Group i., but main ornament like that of *Class α*, Group iv.

891. Most of foot and end of pin gone. Length, 0.036 m. Height, 0.0285 m. Central ornament consists of broad ring-corrugation, with double grooved ring at each side. Ornaments at head and foot similar. Right side less carefully finished than left. Foot had extension at top, and two grooves at back.

Group iii. Principal ornament similar to that in Group ii. Secondary ornament consists of two rings side by side, on either shoulder of bow.

892. Coil and pin gone. Corroded. Length, 0.046 m. Height, 0.0305 m. Hook on right side, which was not carefully finished. Foot probably had extension, but at present it projects only very slightly. Back of foot has usual grooves.

Group iv. Secondary ornament consists of narrow rounded corrugation with rings attached at either side. Main ornaments consist of bunches of rings (single or grooved).

893. Coil, pin, and part of foot gone. Length, 0.0435 m. Height, 0.0325 m. Central ornament is of single ring, with grooved ring on each side. (Cf. No. **657**.) Ornament at head is of three grooved rings; at foot similar, but lower ring single. Unfinished on left side. Head and

foot somewhat flat. Pin was iron. Foot has extension, and had grooves on back.¹

Group v. Between central ornament and bottom ornaments on each side, a group of three rings, between which and principal ornament at either side is a single ring. Principal ornaments of type of *Class a*, Group iv.

894. Coil and pin gone. Length, 0.048 m. Height, 0.0355 m. Central ornament of corrugation with grooved ring on each side. At head and foot, similar ornament. Secondary ornament similar, but rings not grooved. Left side not carefully finished. Pin was probably iron. Foot has wide, thin extension, and grooves at back.

FORM 2. IN MIDST OF CORRUGATIONS AT HEAD AND FOOT IS LARGE RECTANGULAR BLOCK, TENDING TO GIVE LOWER END FLAT APPEARANCE. CORRUGATIONS AND RINGS AT HEAD AND FOOT SOMEWHAT FLATTENED.

*Class a. Centre of bow plain.*²

895. Coil, pin, and most of foot gone. Length, 0.0605 m. Height, 0.05 m. Rings at head and foot grooved. Trace of bronze pin in head. Two small holes on right side of block at head, of uncertain purpose. Foot has slight extension and usual grooves. Hook was on right.

Class β. Centre of bow ornamented.

896. Coil and pin gone. Length, 0.062 m. Height, 0.055 m. At centre, two corrugations between three rings. At head, rectangular block, above which two rings, corrugation and ring of decreasing diameter; below block, two rings, corrugation and rounded surface with engraved radial lines. On right side, hole connecting with the hole for insertion of pin. Cf. No. **895**. Similar ornament at foot, which is of usual shape. Hook on right, and this side less carefully finished than left.³

FORM 3. ORNAMENTS OF BOW HAVE FORM OF SOLID BLOCKS SLIGHTLY GROOVED TO REPRESENT CORRUGATIONS AND RINGS.

Class a. Blocks round.

897. Coil, pin, and part of foot gone. From West Building. Length, 0.07 m. Height, 0.0375 m. Blocks at centre and ends all engraved with central band, with ring at each side and at ends. Space between the rings filled by

four dotted rings. In bottom of head, remains of bronze pin. The extension piece seems to be inserted in bottom of foot.

898. Fragment of foot ornamented with two rings at edges and five dotted bands between. All grooves shallow.

Class β. Blocks rectangular and flat.

899. Coil and pin gone. Length, 0.055 m. Height, 0.038 m. Hook on right. The blocks have on left side three dotted bands, separated by two broad bands, and at outer edges two narrow bands, which alone are carried round other side of block. At foot, which is wider below than above, the lower outer ring coincides with extension piece. Stub of wire of pin visible at head.

Class γ. Blocks of similar shape to those of Class β, but bow, which sags at centre, perhaps had more than three.

900. Fragment of foot and bow. Length, 0.0335 m. Height, 0.043 m. Hook on left. Bow bends down at centre, and it seems as though there had been a second block there. Left side and both narrow sides of blocks have fine irregular criss-cross. Right side of top block has three perpendicular and two horizontal lines; on lower block, five horizontal lines. No extension on foot, which is wider below than above.

TYPE v. High flat bow. Inserted pin (uncertain whether always so or not).⁴

901. Head injured, pin gone. From first chamber at east end below Cyclopean wall, 1893. Length, 0.065 m. Height, 0.058 m. Hook on right. Edges of bow rounded. At foot and head bow is wider and thicker, thus imitating the ornaments of preceding types. These wider parts are divided into two parts by a ring, represented on the left by deep notches at the ends and by grooves along the left side, while on the right the upper and lower parts each have groove down centre. Each of these grooves has three holes; in one (upper inside of head end) remains of bronze rivet. At head is projection. At foot, narrow extension on inside. Two grooves on back of hook, and hole near top.

The following objects are somewhat uncertain, but probably are a simpler form of same type.

¹ Cf. the somewhat similar pin, *Olympia*, No. 371.

² Cf. G. and A. Körte, from Gordion, *Jahrb. Ergänzungsh.* V. p. 78, figs. 66, 67.

³ Form of bow somewhat similar to that of *Olympia*,

No. 370, which appears, however, to have had a double spiral. See Furtwängler, *s. n.*

⁴ Several fibulae of this type from necropolis of Gordion (tumuli III., IV.). G. and A. Körte, *Jahrb. Ergänzungsh.* V. pp. 78, 102.

902. Fragment of bow. Length, 0.047 m. Thin bronze plates attached by rivets to one side of foot. Bow perforated with holes about 0.01 m. apart; mostly filled up. On lower part of foot, extension with hole at either end. Perhaps this and No. **901** had bar attached at base and head by rivets, and running across. Cf. No. **905**.

903. Fragment of bow. Length, 0.05 m. No holes. Perhaps not fibula, but ring.

904. Fragment of bow. Length, 0.0385 m. Three holes; in one at end, rivet. Trace of fourth hole in right end.

DIVISION III. PIVOT HEAD.

Type w. High bow with three corrugation ornaments. Pin plays on rivet, passing through head from side to side. Across bottom, transverse bar.

905. From West Building. Length, 0.043 m. Height, 0.039 m. Hook on right. At top, head, and foot, corrugation, with ring each side; rings at head and foot grooved. (For lower ornaments cf. No. **658**.) Cross-bar looks as if of same piece with head and foot. Pin was attached to right side.¹

Type x. Rather low bow with three or four corrugations, each with ring at either side.

FORM 1. PIN INSERTED INTO SLIT IN HEAD AND FASTENED BY RIVET.

Class a. Three corrugations.

Group i. Central corrugation has raised grooved band. Other corrugations have raised band.

PLATE LXXXVIII.

906. Pin and hook gone. Length, 0.043 m. Height, 0.024 m. (For combination of corrugations cf. Nos. **634** and **682**. The corrugations are also themselves of similar form.)

Group ii. All three corrugations have grooved bands.

907. From back of South Building. Pin and hook gone. Length, 0.0325 m. Height, 0.0205 m. Hook probably on left at head, socket for pin is an eyelet attached to end of bow. Hole filled with iron, consisting of rivet and probably small piece of pin.

908. Pin gone, head injured. Length, 0.0455

m. Height, 0.0265 m. Hook on right. At foot is added shaft (of same piece with bow), consisting of heavy and light ring, into which is inserted the hook. On front of hook, three slight, straight, perpendicular grooves. On both sides of grooved band on corrugations, row of dotted circles. For corrugations cf. Nos. **635** ff. For somewhat similar ornamentation of corrugation, No. **695**.

In the following number rings and raised bands have fine oblique notching.

909. Pin and part of head and foot gone. Poor condition. Length, 0.0365 m. Height, 0.0225 m. Bronze rivet remains. At foot, a broad and narrow ring, the latter grooved.

Class β. Four corrugations, all of which have raised grooved bands.

910. Length, 0.063 m. Height, 0.035 m. Hook on right. Between middle corrugations low raised convex band, with ring at either side. Band has cross-grooves in groups of two. Foot flat and long, perhaps inserted, but probably not. Rivet bronze.

FORM 2. PIN ATTACHED TO SHORT ROUND SHAFT, PROJECTING DOWN FROM HEAD END OF BOW. MOTION OF PIN IS THUS LATERAL.

Class α. Three corrugations.

Group i. Central corrugation has raised grooved band. Side corrugations have raised band.

911. Pin and hook gone. Condition poor. Length, 0.034 m. Height, 0.017 m. At head, second narrow ring, slightly smaller in diameter, beneath lower side ring; and beneath this, round shaft, to which is attached small piece of iron pin.

The following two numbers have oblique notching on some or all rings.

912. Pin and hook gone. Condition poor. Length, 0.037 m. Height, 0.024 m. Hook was on right. Head same as that of No. **911**. Pin was of iron.²

913. Pin and most of foot gone. Length, 0.036 m.

Group ii. All corrugations with raised grooved bands.

914. Pin and most of foot gone. Condition

¹ Similar cross-bar, *Olympia*, No. 376. In No. 377 bar is connected with centre of bow by perpendicular bar. Front of *Olympia* specimens ornamented with knobs. For a closer parallel cf. fibula from Iné, *Athen. Mitth.* XII. p. 11 (Studniczka).

² *Olympia*, No. 372, has bow of same shape and ornament, and appears to agree with this form in manner of attachment of pin. Regarding this method of attachment, Furtwängler makes no statement.

poor. Length, 0.037 m. Height, 0.021 m. Traces of notching on upper band of foot corrugation. Remains of iron pin. Foot was inserted.

915. From back of South Building. Pin and part of foot gone. Length, 0.041 m. Height, 0.0235 m. Remains of oblique notching on all rings and bands. Knob for pin attached directly beneath lower side ring.

Class β. Four corrugations.

916. Pin and part of foot gone. Condition poor. Length, 0.042 m. Traces of notching on lower ring of foot corrugation. Possible traces on bands of all corrugations. At foot, rectangular hook-shaft inserted directly into bottom of ornament.

917. Fragment. Condition poor. Length, 0.045 m. Traces of oblique notching on lower side ring and band of head corrugation. Beneath lower ring of head corrugation, round extension followed by knob for pin.

918. Pin gone. Length, 0.048 m. Height, 0.025 m. Hook on right. Traces of oblique notching on all bands and rings. Hook-shaft inserted directly into lower ring of corrugation.

Type y. Ring safety-pins. Head and foot inserted. Attachment of pin, so far as preserved, as in FORM 2 of **Type x**.

FORM 1. ROUNDED BAR.

Class α. Bar slightly elliptical in section.

919. Pin, foot, and head gone. Length (i. e. outside diameter of ring in axis of pin), 0.0245 m. Height, 0.023 m.

920. Pin gone. Length, 0.026 m. Height, 0.0255 m. Hook probably on left side. Rivets¹ of head and foot show on upper side.

921. Pin and foot gone. Length, 0.0285 m. Height, 0.028 m.

922. From West Building. Pin and hook gone. Length, 0.032 m. Height, 0.031 m. Head and foot rivets inserted, but do not show on top. Above hook, rectangular shaft. Hook was on left.

923. Fragment. Length, 0.024 m. Hook probably on left.

924. From south slope. Pin and head and foot gone. Length, 0.034 m. Height, same. In one rivet-hole, remains of iron shaft.

925. From beneath Cyclopean wall above Stoa, 1893. Pin and most of head gone. Length, 0.035 m. Height, same. Pin was of bronze.

926. From back of South Building. Pin

gone. Length, 0.0385 m. Height, same. Rivets show on top. Head formed of rectangle with knob. Upper part of foot rectangular, hollowed to form hook. On outside of hook, three grooves. Hook on left.

927. Pin and part of head and foot gone. Length, 0.042 m. Height, same. Rivets show on top.

928. From West Building. Pin and head gone. Length, 0.046 m. Height, 0.045 m. Foot rivet shows on top. Hole for head rivet pierced through. Under side of foot rectangular. Hook on left.

Class β. Elliptical bar. (Forms transition to following forms.)

929. Pin and part of head and foot gone. Length, 0.029 m. Height, 0.0285 m. Head and foot rivets show on top.

930. Pin, head, and foot gone. Length and height, 0.035 m. Bit of iron in one rivet-hole.

FORM 2. UPPER SIDE OF BAR ROUNDED, LOWER SIDE FLAT.

931. Pin, head, and foot gone. Length, 0.0315 m. Height, 0.031 m. Bits of iron in rivet-holes.

932. Photograph shows under side. Pin, head, and foot gone. Length, 0.034 m. Height, 0.0335 m.

FORM 3. UPPER AND LOWER SIDES OF BAR FLAT. OTHER TWO SIDES ROUNDED.

Class α. Sides rounded as though part of circle.

933. Pin, head, and foot gone. Length, 0.024 m. Height, 0.0235 m. Ring flattened at holes on top and bottom.

Class β. Sides consist of more or less angular combinations of surfaces.

934. Complete and in working condition. Length, 0.031 m. Height, same. Outer side of ring convex, terminating in rounded obtuse angle at centre. Two grooves along rim. Inner side consists of two convex surfaces meeting at obtuse angle slightly below centre. Rivets show on top. Rectangle of head has three grooves. Rectangle of foot has two grooves. Hook on left side.

FORM 4. BAR RECTANGULAR.

Class α. Bar thin. Edges plain.

935. Pin gone. Length, 0.026 m. Height, same. Top of ring has engraved circles. Rivets appear on top. Fragment of foot (?) left.

936. Fragment. Height, 0.031 m. Has

¹ To be understood here, and in the following fibulae of this type, of the tops of the shafts.

row of dotted eircles near each edge of top. Rivet of foot shows on top. Hook on left. Upper part of foot round, and hook formed by cutting away on left side.

937. From east end of Stoa (III). Pin, head, and foot gone. Length, 0.031 m. Height, 0.035 m. On top, three concentric eircles of dots.

938. Pin and foot gone. Length, 0.031 m. Height 0.032 m. Ornamented with two bands of eircles. Head-shaft has slightly rounded top.

939. From back of South Building. Pin and part of hook gone. Length, 0.032 m. Height, 0.0315 m. Top covered with irregular punch-marks. Rivets show on top. Hook on left side.

940. Pin and head gone. Length, 0.0435 m. Height, same. Top has row of eircles. Rivet of foot shows on top. Upper part of foot below is rectangular.

Class β. Bar usually thicker, and with grooved outer edge.

941. From south slope. Most of pin and part of hook gone. Length, 0.029 m. Height, 0.0285 m. Uncertain traces of ornament on top. Heavy groove on rim. Length of head, 0.0044 m. Piece of pin adheres to stub. Upper part of foot rectangular. Hook on left side.

942. Pin and head gone. Length, 0.0285 m. Height, 0.028 m. Rivets show on top. Foot formed of rectangle. Top of ring covered with punch-marks in three irregular eircles.

943. Pin, head, and foot gone. Length, 0.0295 m. Height, 0.029 m. On top, three irregular eircles of punch-marks. Rivets show on top.

944. From south slope. Pin, head, and foot gone. Length, 0.0464 m. Height, 0.0469 m. Upper side has horseshoe ornament. Rim has three grooves. Rivet-holes pierced through; in one, fragment of bronze. In other, fragment of iron.

Addendum to FORM 4. Uncertain to which class following fragment belongs, but probably to *Class a*.

945. From south slope. Foot and fragment of ring. Length, 0.017 m. Outer edge covered with fine irregular grooves. On inside same, probably due to corrosion. Hook on right side.

Type z. Bow has form of lion.

946. From behind South Building, 1894. Pin

and hook gone. Length, 0.068 m. Height, 0.043 m. Lion represented lying down with fore feet stretched out and head up. Mouth open. Line of back rises from withers to hips. No engraving used to indicate muscles of body, but modeling broad and careful. Four claws on each fore foot; three on hind feet. Hips spread far from body. Muscles of the hind fore legs indicated by two grooves. Tail projects well out from body turning over back, to which it is joined, in S shape, and ending in bearded snake's head. Groove along top of snake's head. Eyes indicated by ridge. Beard of snake broken; originally bent forward, following curve of tail. Mane represented broadly, the metal rising sharply from behind eyes in oval round face. Faint engraved line round edge of ears. Forehead full over eyes. Nostrils slight, with raised line between reaching to mouth. From this raised line branch others to sides. Eyes oblong, with upper lids plainly marked. Teeth represented by ridge. Tongue marked. Bottom of animal in two planes, running from fore feet and tail toward centre of body. Body is hollow, but head, limbs, and tail solid. Head of fibula consists of two roll-like blocks beneath front paws; they are connected by round shaft passing from end to end. Each roll has five slight grooves. Centre of shaft surrounded by remains of iron pin. Foot of fibula just forward of root of tail.¹ For style, see under III. 5, a (p. 203, above).

Addenda to Fibulae. The following were discarded: **Type x**, Group i., *Class a*, three of uncertain form. Of Group ii., one from south slope. **FORM 1**, *Class a*, one. **FORM 2**, *Class a*, Group i., one. Probably of *Class β*, one. **Type y**, **FORM 4**, *Class a*, one. All the above were mere fragments. Also four broken pieces of the pins (including one from south slope), and six unclassified fragments.

C. PSEUDO-SAFETY-PINS.

Probably to be regarded as decorative straight pins with ring heads. Cf. Nos. **2081 ff.** Not classed as buckles, because for such use No. **947** is ineffective, and No. **948** difficult.

947. Pin very loose on ring. Diameter of ring, 0.029 m. Length of pin, 0.031 m. Ring made of piece of elliptical wire, of which ends

hind feet is double. It is more likely a fibula than an attached figure with something hung to the hooks, as Furtwängler takes it.

¹ For style cf. *Olympia*, No. 966. According to Furtwängler, the two ends have apotropaic sense. The *Olympia* specimen has two rolls under fore feet, but hook under

overlap and each after a single twist turns twice around the other. Rough threading on wire put on before the ends were twisted.¹

948. From West Building. Diameter of ring, 0.02 m. Length of pin, 0.037 m. Head flat, encircling ring once. Ring of elliptical wire. Pin plays over whole circumference of ring.²

2. NEEDLE.

949. Not cleaned because patinated. From northeast corner near Cyclopean wall, 1893. Length, 0.1565 m. Flattens at top for eyelet, but elsewhere nearly round.

3. RINGS.

A. FINGER-RINGS.

Type a. Plain convex bar.

FORM 1. ROUNDED CONVEXITY.

Class α . Closed.

950. From West Building. Bar worn on one side. Diameter (outside), 0.0205 m. \times 0.0196 m. Height, 0.003 m.

951. Diameter (outside), 0.0245 m. \times 0.023 m. Height, 0.0088 m.³

Class β . Open.

952. From West Building. Diameter, 0.022 m. Height, 0.0064 m.

953. Diameter, 0.027 m. \times 0.021 m. Height, 0.0067 m.

954. From south slope. Diameter, 0.0245 m. \times 0.0225 m. Height, 0.0057 m.

FORM 2. ANGULAR CONVEXITY.

Examples open or fragmentary.

955. From south slope. Fragment. Diameter, 0.022 m. Height, 0.004 m.

956. From West Building. Diameter, 0.0225 m. \times 0.0215 m. Height, 0.0048 m.

957. From West Building. Diameter, 0.0257 m. \times 0.025 m. Height, 0.0065 m.⁴

Type b. Band rings.

FORM 1. BAND HAS ON OUTSIDE RAISED MOULDING AT TOP AND BOTTOM.

958. Fragment. Height, 0.0073 m.

959. Fragment. Diameter, 0.0235 m. Height, 0.0055 m.

¹ Cf. *Olympia*, No. 1146. More buckle-shaped, Cesnola, *Salamina* (Italian ed.), p. 69, No. 79.

² Cf. Ridgeway, *Early Age of Greece*, I. p. 591, fig. 150.

³ Plain closed gold ring from Mycenae, fourth grave, No. 299. Heavy bronze rings with convex outside, inside uncertain, still with bones in them from Salamis

FORM 2. BAND ORNAMENTED OUTSIDE WITH PARALLEL HORIZONTAL GROOVES.

960. From West Building. Diameter, 0.02 m. Height, 0.006 m. One edge thinner than other. Band has three shallow grooves.

961. Condition poor. Open. Diameter, 0.0205 m. \times 0.018 m. Height, 0.0072 m. Five grooves on outside. Ridges formed by grooves have zigzag.

FORM 3. OUTSIDE OF BAND GROOVED AND THREADED. EDGE GROOVED.

PLATE LXXXIX.

962. From West Building. Fragment. Length, 0.0185 m. Height, 0.0025 m. Single groove round each edge. Outside of bar has two fine grooves, with band between plain, but outer bands have slight oblique notching.

963. From West Building. Fragment. Diameter, 0.0199 m. Height, 0.00265 m. Ornament same as that of No. 962.

FORM 4. BAND INSCRIBED ON EITHER SIDE OF ENGRAVED ORNAMENT.

964. Ring broken. Oxidized and considerably corroded. Bent. Diameter, 0.0205 m. \times 0.0184 m. Height, 0.0035–0.0038 m. Thickness, 0.0006–0.0009 m. Ornament: small arc of circle ending with little circle at each end. Between ornament and beginning of inscription at right, space of 0.003 m., much corroded. At left, between ornament and last trace of letter, space of 0.002 m.

For inscription, see *Appendix* (p. 332).

Type c. Rings with solid seal.

FORM 1. PLAIN RECTANGULAR SEAL.

965. From Northwest Building. Ring cracked apart, opposite seal. Diameter, 0.0235 \times 0.023 m. Length of seal, 0.012 m. Bar oval, with inner side narrow and sides partially flattened. Seal seems to be plain. Crack in ring may be intentional as surfaces are smooth.

FORM 2. OVAL SEALS, WITH INTAGLIO ORNAMENT.

966. From below Cyclopean wall above Stoa (III). Diameter, 0.0222 m. \times 0.022 m. Bar oval, with inner side the broader. Seal thinner in centre. Length of seal, 0.0215 m. Width of seal, 0.0108 m. On seal is figure of lion seated

(Mycenaean period), Athens Mus. Nos. 3585, 3586, 3591. Small plain bronze rings from Lion tomb at Chaeronea, Athens Mus., No. 9793. Cf. Zannoni, *Scavi della Certosa*, p. 67, pl. xv. No. 30 (silver), still inclosing bone.

⁴ The above rings were assigned to this type and put with finger-rings, because of plain smooth finish inside.

to left. Beneath lion, a groove slanting upward to right. Tail curled back and up. Mane indicated by vertical wavy grooves. Ear indicated. Eye uncertain. Jaw clearly marked. Figure shows Oriental influence. Above head three slight indentations, perhaps merely meant to bound field, perhaps the petals of a flower.¹

967. Diameter, 0.022 m. \times 0.02 m. Bar oval; inside the narrower. Length of seal, 0.012 m. Width, 0.009 m. Groove and line of dots about edge. Design: shallow cup with projecting rim. Over this three trilobate figures.

FORM 3. HIGH CIRCULAR SEAL, WITH INTAGLIO ORNAMENT.

968. From West Building. Diameter, 0.02 m. \times 0.025 m. Bar of ring decreases in size downward; is slightly oval, with broad inside. Ornamented with groups of three grooves. Seal a low truncated cone. Slight distance above bottom, a groove which seems to have contained band of whitish metal, probably electrum. Design uncertain; perhaps rosette or beetle.

Type d. Rings with swivel seals.

FORM 1. SEAL OF IVORY.

969. From southeast slope, 1894. When found, fragment of ivory seal was attached. Bar round, with wire coil at each side of seal. Diameter, 0.031 m. Bar oval in section, with narrow side to finger.

FORM 2. SEAL OF BRONZE.

970. From back of South Building near retaining wall, 1894. Diameter, 0.025 m. \times 0.027 m. Bar slightly elliptical, with narrow edge inside. Ends near seal have fine wire coil, of nine or ten turns. Seal a short cylinder. Diameter, 0.0122 m. Under side plain and slightly convex. Edge divided by two heavy grooves. Each band outside of these has fine groove. Design: groove next to edge, within which a fly in intaglio; work careful. Both pairs of wings have fine oblique grooving from top down and outward. Traces of antennae. Legs shown.

Addendum to Type d.

970 a. Fragment which had swivel seal of unknown substance. Wire coils at each side of seal. Diameter, 0.0225 m.

¹ Cf. lion with flower in mouth on gold breastplate, from Regulini-Galassi tomb at Cervetri. *Museo Gregoriano*, A I pl. 28 (= Grifi, *Monumenti di Cere Antica*, pl. 1).

² Cf. bracelet from Amorgos (pre-Mycenaean), 'Εφην. 'Αρχ. 1898, col. 155, pl. 8, No. 2 (Tsonntas).

³ At Mycenae, outside of tombs, plain round, apparently solid gold rings; bar slightly elliptical; Nos. 975-

PLATE CXXXVII.

970 b. Fragment of similar ring. Diameter, 0.035 m.

B. BRACELETS.

PLATE LXXXIX.

Type a. Plain coil.

971. Ends broken. Much corroded. Outside diameter, 0.064 m. Plain bar, slightly elliptical.

Type b. Ornamented coil.

972. One end injured. Much corroded. Diameter, 0.08 m. Bar has fine, close, uneven screw-threading. On uninjured end is roll, followed by five small corrugations or rings. Probably other end was treated in same way.

Type c. Plain bar open, with ends slightly ornamented.

972 a. From back of South Building. Diameter, 0.042 m. Ends have slight ridge at tip except on inside. Bar becomes slightly smaller as it approaches ends. Bar somewhat like that in C, **Type a**, FORM 2 (pp. 253 ff.). On outer edges of each end two dents probably for eyes of serpent's head. Perhaps bracelet of statuette.

PLATE CXXXVII.

972 b. Diameter, 0.036 m. Bar grows smaller toward ends, which terminate in thin flat disks at nearly right angles with ring. Ends 0.0125 m. apart.²

PLATE LXXXIX.

Type d. Hooked wire, with hollow hemispherical beads.

973. Diameter, 0.065 m. Plain wire, tapering at ends to form hook. On wire, strung through small holes, two beads. Although of same size, no sign that they were ever joined. The beads made of strip of metal, having ends joined together.

974. Diameter, 0.0075 m. Wire plain, tapering at hooks. Beads similar to those of No. 973. Their arrangement has been disturbed. Welding of edges of bead almost imperceptible.

C. RINGS, MAINLY DECORATIVE, OF VARIOUS FORMS AND SIZES.

Type a. Plain rounded bar, usually elliptical in section.³

977, 979; 994 of silver; 978, of gold, has inside flattened. For examples of decorative use cf. British Museum, *Excavations in Cyprus*, p. 102, No. 30, pl. xiv., fibula with rings on bow from Amathus. So frequently in Iron Age graves in Italy. Open rings, sometimes linked together, e.g. in Brit. Mus., Gold Room, Case T, from tomb in one of the Greek islands, — five open plain gold rings linked

FORM 1. INSIDE AND OUTSIDE OF BAR
TREATED ALIKE.

Group i. Outside diameter, 0.02 m. to 0.025 m.

975. Diameter, 0.0227 m. \times 0.022 m. Width of bar, 0.018 m. Bar horizontal ellipse approaching to rectangle.

The following have bar of same shape unless otherwise stated.

976. From back of South Building. Diameter, 0.0207 m. Width, 0.0013 m.-0.002 m.

977. Diameter, 0.0225 m. Width, 0.0024 m.

978. Diameter, 0.0237 m. Width, 0.0025 m.

979. Diameter, 0.0247 m. Width, 0.0025 m.

980. Diameter, 0.0245 m. Width, 0.0027 m. Bar nearly round.

981. Diameter, 0.0243 m. Width, 0.0027 m. Bar as that of No. 980.

982. Diameter, 0.0223 m. Width, 0.0028 m. Bar as that of No. 980.

983. Diameter, 0.024 m. Width, 0.003 m.

984. From south slope. Diameter, 0.025 m. Width, 0.0028 m.-0.0034 m. Bar as that of No. 980.

985. Diameter, 0.0243 m. Width, 0.0035 m.

986. Diameter, 0.0255 m. Width, 0.0038 m.

987. Diameter, 0.0244 m. Width, 0.0025 m.-0.0038 m.

988. Diameter, 0.0235 m. Width, 0.0025 m.-0.0038 m.

989. Diameter, 0.0248 m. Width, 0.0045 m.

Group ii. Outside diameter, 0.025 m. to 0.03 m.

(a') Closed.

990. Diameter, 0.0254 m. Width, 0.0017 m.-0.0025 m.

991. Diameter, 0.027 m. Width, 0.0025 m.

992. Diameter, 0.025 m. Width, 0.0025 m.

993. Diameter, 0.026 m. Width, 0.0025 m. Bar as that of No. 980.

994. Diameter, 0.0257 m. Width, 0.0026 m.-0.0029 m. Bar as that of No. 980.

995. Diameter, 0.0265 m. Width, 0.003 m.

996. Diameter, 0.0253 m. Width, 0.003 m.

997. Diameter, 0.0258 m. Width, 0.003 m.

998. Diameter, 0.0255 m. Width, 0.0031 m. Bar as that of No. 980.

999. From back of South Building. Diameter, 0.0255 m. Width, 0.003 m.

1000. Diameter, 0.025 m. Width, 0.0033 m. Bar as that of No. 980.

1001. Diameter, 0.027 m. Width, 0.0025 m.-0.0035 m.

1002. From south slope. Diameter, 0.0252 m. Width, 0.0028 m.-0.0035 m.

1003. Diameter, 0.0286 m. Width, 0.0036 m. Bar as that of No. 980.

1004. From south slope. Diameter, 0.025 m. Width, 0.0036. Bar as that of No. 980.

1005. Diameter, 0.025 m. Width, 0.003 m.-0.0036 m. Bar as that of 980.

1006. Diameter, 0.0257 m. Width, 0.0029 m.-0.0037 m. Bar as that of No. 980.

1007. Diameter, 0.025 m. Width, 0.0034 m. Bar as that of 980.

1008. Diameter, 0.0255 m. Width, 0.0033 m.

1009. Diameter, 0.027 m. Width, 0.0025 m.-0.0043 m.

1010. Diameter, 0.0245 m. Width, 0.0027 m.-0.0043 m.

1011. From back of South Building. Diameter, 0.0257 m. Width, 0.0025 m.-0.0043 m.

1012. From back of South Building. Diameter, 0.025 m. Width, 0.0035 m.

PLATE XC.

1013. Diameter, 0.0287 m. Width, 0.004 m.

1014. From back of South Building. Diameter, 0.0275 m. Width, 0.0049 m.

1015. Diameter, 0.0292 m. Width, 0.0065 m. (b') Open.

1016. Diameter, 0.0275 m. Width, 0.0023 m. Ends fit closely.

Group iii. Outside diameter, 0.03 m.-0.035.

1017. Diameter, 0.034 m. Width, 0.0025 m.

1018. Diameter, 0.0315. Width, 0.0026 m.

1019. Diameter, 0.0325 m. Width, 0.0029 m. Bar as that of 980.

1020. Diameter, 0.03 m. Width, 0.005 m.-0.0062 m.

Group iv. Outside diameter, 0.035 m.-0.04 m.

(a') Closed.

1021. Diameter, 0.0354 m. Width, 0.004 m.

together; ends of rings smaller than centre. Similar group of rings from Encomi. Cf. *Excavations in Cyprus*, pl. ix. Nos. 288-295. Possibility that some of the open rings with bar tapering toward ends may be earrings; cf. Myres and Ohuefalsch-Richter, *Cyprus Museum Cat.* p.

123; Orsi, *Mon. Ant. Linc.* I. col. 863, sepultura clxvi. from Megara Hyblaea, and IX. coll. 74, 75, fig. 27, from Pantalica. Open ring with crossed ends from Sikel village near Matera, Apulia, published by Patroni, *Mon. Ant. Linc.* VIII. coll. 497, 507, fig. 108, as finger-ring.

1022. Diameter, 0.0394 m. Width, 0.0039 m.-0.005 m.

(b'.) Open.

1023. Diameter, 0.035 m. Width, 0.0037 m. Bar round.

1024. Diameter, 0.0385 m. Width, 0.0047 m. Opening looks accidental.

Group v. Outside diameter, 0.04 m., or more.

(a'.) Closed.

1025. Diameter, 0.0444 m. Width, 0.0034 m.

1026. From back of South Building. Diameter, 0.049 m. Width, 0.0058 m.-0.0069 m.

1027. Diameter, 0.0505 m. Width, 0.0055 m.-0.0069 m.

(b'.) Open.

1028. Diameter, 0.043 m. Width, 0.0055 m. Opening looks accidental.

Addenda to FORM 1. It is uncertain whether the openings in the following are intentional or accidental.

1029. Diameter, 0.0215 m. Width, 0.0015 m. Bar round. Edges of opening rough; hence probably accidental.

1030. Diameter, 0.0216 m. Width, 0.0018 m. Edges of opening fairly smooth. Bar round.

1030 a. Diameter, 0.0213 m. Width, 0.009 m.

FORM 2. INSIDE SURFACE LESS ROUNDED THAN OUTSIDE. DIVISION BETWEEN SURFACES NOT DISTINCTLY INDICATED.

Group i. Outside diameter less than 0.02 m. Unless otherwise stated, all the following to No. 1099 have nearly round bar.

1031. Diameter, 0.0165 m. Width, 0.0035 m.

1032. From south slope. Diameter, 0.017 m. Width, 0.0038 m.

1033. Diameter, 0.0193 m. Width, 0.0009 m.

Group ii. Outside diameter, 0.02 m.-0.025 m.

1034. Diameter, 0.021 m. Width, 0.0013 m. (Condition so poor as to make classification uncertain.)

1035. Diameter, 0.022 m. Width, 0.0018 m.

1036. Diameter, 0.0232 m. Width, 0.002 m.

1037. Diameter, 0.0239 m. Width, 0.0018 m.

1038. Diameter, 0.0231 m. Width, 0.002 m.

1039. Diameter, 0.023 m. Width, 0.002 m.

1040. Diameter, 0.0228 m. Width, 0.0015 m.-0.0028 m. Bar higher than wide in some places.

1041. Diameter, 0.0216 m. Width, 0.0017 m.-0.0028 m.

1042. Diameter, 0.0235 m. Width, 0.002 m.

1043. From West Building. Diameter, 0.0245 m. Width, 0.0025 m.

1044. Diameter, 0.0238 m. Width, 0.0025 m.

1045. Diameter, 0.0235 m. Width, 0.0029 m.

1046. Diameter, 0.0228 m. Width, 0.0024 m.-0.0034 m.

1047. Diameter, 0.0248 m. Width, 0.0024 m.-0.0034 m.

1048. From behind South Building. Diameter, 0.0237 m. Width, 0.0025 m.-0.0035 m.

1049. Diameter, 0.0222 m. Width, 0.0023 m.-0.0035 m. Poor condition renders classification uncertain; perhaps this specimen belongs under FORM 4.

1050. Diameter, 0.0227 m. Width, 0.0015 m.-0.0037 m. (Difference due to oxidation.) Perhaps belongs under FORM 4.

1051. From behind South Building. Diameter, 0.024 m. Width, 0.0027 m.-0.004 m.

1052. From south slope. Diameter, 0.024 m. Width, 0.003 m.-0.004 m.

1053. From back of South Building. Diameter, 0.0243 m. Width, 0.0027 m.-0.004 m.

1054. Diameter, 0.0205 m. Width, 0.0032 m.

Group iii. Outside diameter, 0.025 m.-0.003 m.

1055. Diameter, 0.025 m. Width, 0.0025 m.

1056. From behind South Building. Diameter, 0.025 m. Width, 0.0025 m.

1057. From behind South Building. Diameter, 0.025 m. Width, 0.0023 m.

1058. Diameter, 0.025 m. Width, 0.0025 m.

1059. Diameter, 0.025 m. Width, 0.0028 m.

1060. Diameter, 0.025 m. Width, 0.0028 m.

1061. Diameter, 0.025 m. Width, 0.0024 m.-0.0035 m. (Difference due to oxidation.)

1062. Diameter, 0.025 m. Width, 0.002 m.-0.0035 m.

1063. Diameter, 0.0255 m. Width, 0.0029 m.

1064. Diameter, 0.026 m. Width, 0.0028 m.-0.0038 m.

1065. Diameter, 0.025 m. Width, 0.0024 m.-0.0038 m.

1066. Diameter, 0.0255 m. Width, 0.0027 m.-0.0038 m.

1067. Diameter, 0.025 m. Width, 0.0028 m.-0.0038 m. About one half of ring larger than the other. Perhaps finger-ring.

1068. Diameter, 0.025 m. Width, 0.003 m.

1069. Diameter, 0.0258 m. Width, 0.003 m.

1070. From behind South Building. Diameter, 0.026 m. Width, 0.0028 m.-0.0038 m.

1071. Diameter, 0.0257 m. Width, 0.0035 m. Bar slightly elliptical.

1072. Diameter, 0.025 m. Width, 0.0035 m.

1073. From south slope. Diameter, 0.0255 m. Width, 0.003 m.-0.0042 m.

1074. From West Building. Diameter, 0.026 m. Width, 0.0035 m.

1075. Diameter, 0.025 m. Width, 0.0034 m.-0.0045 m.

1076. Diameter, 0.027 m. Width, 0.0035 m.-0.0049 m.

1077. Diameter, 0.0285 m. Width, 0.005 m.

1078. From behind South Building. Diameter, 0.0285. Width, 0.0055 m.

1079. Diameter, 0.0265 m. Width, 0.0045 m.-0.0065 m.

Group iv. Outside diameter, 0.03 m.-0.035 m.

1080. Diameter, 0.03 m. Width, 0.0034 m.

1081. Diameter, 0.032 m. Width, 0.0036 m.

1082. Diameter, 0.0323 m. Width, 0.0045 m.

1083. Diameter, 0.032 m. Width, 0.0045 m.

1084. Diameter, 0.034 m. Width, 0.0045 m.

1085. Diameter, 0.031 m. Width, 0.0047 m.

1086. From West Building. Diameter, 0.03 m. Width, 0.0043 m.-0.0058 m.

1087. Diameter, 0.0335 m. Width, 0.0043 m.-0.006 m. Bar elliptical.

1088. From behind South Building. Diameter, 0.0335 m. Width, 0.0045 m.-0.006 m.

1089. Diameter, 0.032 m. Width, 0.008 m.

Group v. Outside diameter, 0.035 m.-0.04 m.

1090. Diameter, 0.035 m. Width, 0.0045 m.

1091. Diameter, 0.0365 m. Width, 0.004 m.-0.0055 m.

1092. From behind South Building. Diameter, 0.034 m. Width, 0.005 m.-0.006 m.

1093. Diameter, 0.035 m. Width, 0.0055 m.-0.0065 m.

1094. Diameter, 0.0385 m. Width, 0.005 m.-0.0068 m.

1095. Diameter, 0.0385 m. Width, 0.0075 m.

Group vi. Diameter, 0.04+ m.

1096. From West Building. Diameter, 0.041 m. Width, 0.008 m.¹

Addenda to FORM 2. The openings in the following are partially due to accident, whether they were originally intended to be open or not.

Group ii. 1097. Diameter, 0.0245 m. Width, 0.003 m. One end smooth, other end rough.

Group iii. 1098. Diameter, 0.0253 m. Width, 0.0034 m. Both ends corroded.

Group iv. 1099. From behind South Building. Diameter, 0.031 m. Width, 0.0045 m.-0.006 m. Both ends corroded.

FORM 3. INSIDE SURFACE LESS ROUNDED THAN OUTSIDE. ON TOP AND BOTTOM FLAT PLANE CONNECTING INSIDE AND OUTSIDE.

Class a. Inside surface rounded slightly in continuous curve.

Group i. Outside diameter, 0.02 m.-0.025 m.

1100. From West Building. Diameter, 0.0249 m. Width, 0.003 m.

Group ii. Outside diameter, 0.025 m.-0.03 m.

1101. Diameter, 0.025 m. Width, 0.0035 m.

1102. Diameter, 0.0257 m. Width, 0.0025 m.-0.004 m.

1103. Diameter, 0.025 m. Width, 0.004 m.

1104. Diameter, 0.027 m. Width, 0.0049 m.

Group iii. Outside diameter, 0.03 m.-0.035 m.

1105. Diameter, 0.03 m. Width, 0.006 m.

Class β. Inner convexity consists of two surfaces which meet in rounded obtuse angle.

Group i. Outside diameter, 0.02 m.-0.025 m.

(a'.) Closed.

1106. Diameter, 0.02 m. Width, 0.001 m. (Half of one side is of FORM 4.)

1107. Diameter, 0.0235 m. Width, 0.0018 m.

1108. Diameter, 0.022 m. Width, 0.002 m.

1109. From West Building. Diameter, 0.0237 m. Width, 0.002 m.

1110. From West Building. Diameter, 0.024 m. Width, 0.0024 m.

1111. Diameter, 0.0227 m. Width, 0.0023 m.

1112. From West Building. Diameter, 0.0235 m. Width, 0.0025 m.

1113. Diameter, 0.0225 m. Width, 0.0027 m.-0.004 m.

(b'.) Open.

1114. Diameter, 0.0245 m. Width, 0.002 m.

Group ii. Outside diameter, 0.025 m.-0.03 m.

1115. Diameter, 0.025 m. Width, 0.0025 m.

Addenda to FORM 3. In the following the width of the original opening is uncertain.

¹ For example of such rings used as handles, see Orsi, *Mon. Ant. Linc.* I. col. 801.

Class a. Group i.

1116. Diameter, 0.023 m. Width, 0.0023 m.-0.0037 m. Ends corroded.

Group iii. 1117. From behind South Building. Diameter, 0.03 m. Width, 0.0031 m.-0.0057 m. (Oxidized.)

FORM 4. SIMILAR TO FORM 3 EXCEPT THAT INSIDE AND OUTSIDE SURFACES MEET ON TOP AND BOTTOM¹ EDGE OF RING.

Class a. Inner convexity rounded in continuous curve.

Group i. Outside diameter, 0.015 m.-0.02 m.

1118. Diameter, 0.0176 m. Width, 0.013 m.

1119. Diameter, 0.018 m. Width, 0.001 m.-0.003 m.

Group ii. Outside diameter, 0.02 m.-0.025 m.

(a'.) Closed.

1120. Diameter, 0.02 m. Width, 0.0014 m. This and 1121 and 1122 are perhaps finger-rings.

1121. Diameter, 0.0234 m. Width, 0.001 m.

1122. Diameter, 0.021 m. Width, 0.0014 m.

1123. Diameter, 0.023 m. Width, 0.0015 m.

1124. Diameter, 0.0227 m. Width, 0.0018 m.

1125. From behind South Building. Diameter, 0.0227 m. Width, 0.0014 m.

1126. Diameter, 0.0228 m. Width, 0.0013 m.

1127. Diameter, 0.022 m. Width, 0.0015 m.

1128. From behind South Building. Diameter, 0.022 m. Width, 0.0017 m.

1129. From West Building. Diameter, 0.022 m. Width, 0.0017 m.

1130. Diameter, 0.0229 m. Width, 0.0016 m.

1131. Diameter, 0.023 m. Width, 0.0015 m.

1132. Diameter, 0.022 m. Width, 0.0016 m.

1133. Diameter, 0.024 m. Width, 0.0015 m.

1134. Diameter, 0.022 m. Width, 0.0015 m.

1135. From south slope. Diameter, 0.0224 m. Width, 0.0017 m.

1136. Diameter, 0.0228 m. Width, 0.0015 m.

1137. Diameter, 0.0228 m. Width, 0.0015 m.

1138. Diameter, 0.0228 m. Width, 0.0017 m.

1139. Diameter, 0.022 m. Width, 0.0015 m.

1140. Diameter, 0.0235 m. Width, 0.0015 m.

1141. Diameter, 0.022 m. Width, 0.0014 m.-0.0027 m.

1142. From West Building. Diameter, 0.021 m. Width, 0.0018 m.

1143. Diameter, 0.022 m. Width, 0.0019 m.

1144. Diameter, 0.023 m. Width, 0.0018 m.

1145. Diameter, 0.0236 m. Width, 0.0015 m.

1146. From West Building. Diameter, 0.0223 m. Width, 0.0025 m.

1147. Diameter, 0.022 m. Width, 0.0025 m.

1148. Diameter, 0.0235 m. Width, 0.0022 m.

1149. Diameter, 0.0225 m. Width, 0.002 m.

1150. Diameter, 0.0222 m. Width, 0.0015 m.-0.003 m.

1151. From south slope. Diameter, 0.028 m. Width, 0.0015 m.-0.003 m.

1152. From behind South Building. Diameter, 0.0205 m. Width, 0.0013 m.

1153. Diameter, 0.024 m. Width, 0.0019 m.

1154. Diameter, 0.0235 m. Width, 0.0026 m.

1155. Diameter, 0.022 m. Width, 0.002 m.

1156. Diameter, 0.022 m. Width, 0.0017 m.

1157. Diameter, 0.0243 m. Width, 0.0025 m.

1158. Diameter, 0.0206 m. Width, 0.002 m.

1159. Diameter, 0.0225 m. Width, 0.0017 m.

1160. Diameter, 0.0232 m. Width, 0.002 m.

1161. Diameter, 0.0215 m. Width, 0.002 m.-0.0033 m.

1162. Diameter, 0.0235 m. Width, 0.0024 m.

1163. Diameter, 0.0245 m. Width, 0.0027 m.

1164. Diameter, 0.0235 m. Width, 0.002 m.-0.0035 m.

1165. Diameter, 0.0227 m. Width, 0.0023 m.

1166. From behind South Building. Diameter, 0.0244 m. Width, 0.0023 m.-0.0035 m.

1167. From south slope. Diameter, 0.0225 m. Width, 0.0023 m.-0.0036 m.

1168. Diameter, 0.0224 m. Width, 0.002 m.-0.0037 m.

1169. Diameter, 0.0235 m. Width, 0.002 m.-0.0038 m.

1170. Diameter, 0.0245 m. Width, 0.0025 m.-0.004 m.

1171. Diameter, 0.0235 m. Width, 0.0027 m.-0.004 m.

1172. From south slope. Diameter, 0.024 m. Width, 0.002 m.

(b'.) Open.

1173. Diameter, 0.024 m. Width, 0.0018 m. Ends close together; opening diagonal and probably intentional.

1174. Diameter, 0.023 m. Width, 0.0018 m. Opening probably accidental.

Group iii. Outside diameter, 0.025 m.-0.03 m.

1175. Diameter, 0.026 m. Width, 0.0015 m.

¹ The rings have neither 'top' nor 'bottom,' but these

words are perhaps more intelligible than 'plane of the diameter' or a similar expression.

1176. Diameter, 0.026 m. Width, 0.0022 m.
 1177. Diameter, 0.025 m. Width, 0.0025 m.
 1178. Diameter, 0.026 m. Width, 0.0022 m.
 1179. From West Building. Diameter, 0.0255 m. Width, 0.003 m.
 1180. Diameter, 0.025 m. Width, 0.0032 m.
 1181. Diameter, 0.025 m. Width, 0.0015 m.-0.004 m. (Corroded and oxidized.)
 1182. From south slope. Diameter, 0.0026 m. Width, 0.0022 m.
 1183. Diameter, 0.025 m. Width, 0.0033 m.
 1184. Diameter, 0.0255 m. Width, 0.0029 m.
 1185. From south slope. Diameter, 0.0265 m. Width, 0.0037 m.
 1186. From West Building. Diameter, 0.0285 m. Width, 0.0045 m.
 1187. From West Building. Diameter, 0.028 m. Width, 0.0027 m.
 Group iv. Outside diameter, 0.03 m.-0.035 m.
 1188. From West Building. Diameter, 0.0325 m. Width, 0.004 m.
 1189. Diameter, 0.032 m. Width, 0.0049 m.
 1190. South slope. Diameter, 0.034 m. Width, 0.0065 m.-0.009 m.
 Group v. Outside diameter, 0.035 m.-0.04 m.
 1191. Diameter, 0.036 m. Width, 0.0053 m.
Class β. Inner convexity consists of two surfaces which meet in a rounded obtuse angle.
 Group i. Outside diameter, 0.02 m.-0.025 m.
 (a'.) Closed.
 1192. Diameter, 0.0208 m. Width, 0.0011 m.
 1193. Diameter, 0.0217 m. Width, 0.0015 m.
 1194. Diameter, 0.023 m. Width, 0.0017 m.
 1195. Diameter, 0.023 m. Width, 0.0017 m.
 1196. Diameter, 0.023 m. Width, 0.0018 m.
 1197. Diameter, 0.023 m. Width, 0.0018 m.
 1198. From West Building. Diameter, 0.02 m. Width, 0.0018 m.
 1199. From south slope. Diameter, 0.024 m. Width, 0.0019 m.
 1200. Diameter, 0.0215 m. Width, 0.0019 m.
 1201. Diameter, 0.022 m. Width, 0.0019 m.
 1202. Diameter, 0.0217 m. Width, 0.0019 m.
 1203. Diameter, 0.0209 m. Width, 0.002 m.
 1204. Diameter, 0.0204 m. Width, 0.002 m.
 1205. Diameter, 0.0218 m. Width, 0.002 m.
 1206. Diameter, 0.0225 m. Width, 0.002 m.
 1207. Diameter, 0.0225 m. Width, 0.002 m.
 1208. Diameter, 0.024 m. Width, 0.002 m.
 1209. Diameter, 0.024 m. Width, 0.0021 m.
 1210. Diameter, 0.023 m. Width, 0.0021 m.
 1211. Diameter, 0.022 m. Width, 0.0022 m.
 1212. Diameter, 0.023 m. Width, 0.0022 m.
 1213. Diameter, 0.0225 m. Width, 0.0022 m.
 1214. Diameter, 0.0225 m. Width, 0.0022 m.
 1215. Diameter, 0.0225 m. Width, 0.0022 m.
 1216. Diameter, 0.0224 m. Width, 0.0022 m.
 1217. Diameter, 0.022 m. Width, 0.0022 m.
 1218. Diameter, 0.022 m. Width, 0.0022 m.
 1219. From West Building. Diameter, 0.0249 m. Width, 0.0022 m.
 1220. Diameter, 0.0232 m. Width, 0.0022 m.
 1221. Diameter, 0.024 m. Width, 0.0023 m.
 1222. Diameter, 0.0205 m. Width, 0.0023 m.
 1223. Diameter, 0.0245 m. Width, 0.0025 m.
 1224. From behind South Building. Diameter, 0.0228 m. Width, 0.0025 m.
 1225. Diameter, 0.0235 m. Width, 0.0025 m.
 1226. From south slope. Diameter, 0.023 m. Width, 0.0025 m.
 1227. Diameter, 0.023 m. Width, 0.0025 m.
 1228. From West Building. Diameter, 0.0217 m. Width, 0.0025 m.
 1229. Diameter, 0.023 m. Width, 0.0025 m.
 1230. Diameter, 0.0217 m. Width, 0.0025 m.
 1231. Diameter, 0.0213 m. Width, 0.0025 m.
 1232. Diameter, 0.023 m. Width, 0.0025 m.
 1233. Diameter, 0.0215 m. Width, 0.0025 m.
 1234. Diameter, 0.023 m. Width, 0.0025 m.
 1235. Diameter, 0.023 m. Width, 0.0025 m.
 1236. Diameter, 0.0225 m. Width, 0.0025 m.
 1237. Diameter, 0.023 m. Width, 0.0027 m.
 1238. Diameter, 0.024 m. Width, 0.0027 m.
 1239. Diameter, 0.0248 m. Width, 0.0027 m.
 1240. Diameter, 0.024 m. Width, 0.0027 m.
 1241. Diameter, 0.0243 m. Width, 0.0028 m.
 1242. From West Building. Diameter, 0.024 m. Width, 0.0029 m.
 1243. Diameter, 0.0225 m. Width, 0.0029 m.
 1244. Diameter, 0.0225 m. Width, 0.0029 m.
 1245. Diameter, 0.023 m. Width, 0.0029 m.
 1246. From south slope. Diameter, 0.024 m. Width, 0.003 m.
 1247. Diameter, 0.022 m. Width, 0.003 m.
 1248. Diameter, 0.024 m. Width, 0.003 m.
 1249. From behind South Building. Diameter, 0.021 m. Width, 0.003 m.
 1250. Diameter, 0.021 m. Width, 0.003 m.
 1251. Diameter, 0.0233 m. Width, 0.003 m.
 1252. Diameter, 0.024 m. Width, 0.003 m.
 1253. Diameter, 0.024 m. Width, 0.003 m.
 1254. Diameter, 0.024 m. Width, 0.003 m.

1255. Diameter, 0.024 m. Width, 0.003 m.
 1256. Diameter, 0.0243 m. Width, 0.003 m.
 1257. Diameter, 0.0245 m. Width, 0.003 m.
 1258. From behind South Building. Diameter, 0.0234 m. Width, 0.003 m.
 1259. Diameter, 0.024 m. Width, 0.0032 m.
 1260. Diameter, 0.024 m. Width, 0.0032 m.
 1261. Diameter, 0.023 m. Width, 0.0032 m.
 1262. Diameter, 0.023 m. Width, 0.0035 m.
 1263. Diameter, 0.0242 m. Width, 0.0035 m.
 1264. Diameter, 0.022 × 0.03 m. Width, 0.0035 m.
 1265. From behind South Building. Diameter, 0.024 m. Width, 0.0035 m.
 1266. Diameter, 0.0249 m. Width, 0.0036 m.
 1267. From south slope. Diameter, 0.0232 m. Width, 0.0036 m.
 1268. Diameter, 0.0243 m. Width, 0.0036 m.
 1269. From south slope. Diameter, 0.0243 m. Width, 0.0036 m.
 1270. Diameter, 0.0243 m. Width, 0.0036 m.
 1271. From south slope. Diameter, 0.024 m. Width, 0.0039 m.
 1272. Diameter, 0.024 m. Width, 0.0039 m.
 1273. Diameter, 0.024 m. Width, 0.004 m.
 1274. Diameter, 0.0223 m. Width, 0.004 m.
 1275. Diameter, 0.0235 m. Width, 0.004 m.
 1276. From West Building. Diameter, 0.0243 m. Width, 0.004 m.
 1277. Diameter, 0.0249 m. Width, 0.004 m.
 1278. Diameter, 0.024 m. Width, 0.004 m.
 1279. Diameter, 0.024 m. Width, 0.004 m.
 1280. Diameter, 0.0245 m. Width, 0.0042 m.
 1281. From south slope. Diameter, 0.0248 m. Width, 0.0049.
 (b'.) Open, but opening in all cases probably accidental.
 1282. Diameter, 0.0225 m. Width, 0.0017 m.
 1283. Diameter, 0.024 m. Width, 0.0023 m.
 1284. Diameter, 0.024 m. Width, 0.0023 m.
 1285. Diameter, 0.0225 m. Width, 0.0023 m.
 1286. From south slope. Diameter, 0.022 m. Width, 0.0026 m.
 1287. From south slope. Diameter, 0.024 m. Width, 0.004 m.
 1288. From behind South Building. Diameter, 0.0245 m. Width, 0.004 m.
 1289. Diameter, 0.0214 m. Width, 0.004 m.
 Group ii. Outside diameter, 0.025 m.—0.03 m.
 (a'.) Closed.
 1290. Diameter, 0.0254 m. Width, 0.0025 m.
 1291. Diameter, 0.0258 m. Width, 0.0025 m.
 1292. Diameter, 0.025 m. Width, 0.0026 m.
 1293. Diameter, 0.025 m. Width, 0.0026 m.
 1294. From behind South Building. Diameter, 0.025 m. Width, 0.0026 m.
 1295. Diameter, 0.025 m. Width, 0.0027 m.
 1296. Diameter, 0.0282 m. Width, 0.0028 m.
 1297. Diameter, 0.0257 m. Width, 0.0029 m.
 1298. Diameter, 0.0255 m. Width, 0.003 m.
 1299. From behind South Building. Diameter, 0.0283 m. Width, 0.003 m.
 1300. Diameter, 0.026 m. Width, 0.0033 m.
 1301. Diameter, 0.025 m. Width, 0.0034 m.
 1302. Diameter, 0.0255 m. Width, 0.0034 m.
 1303. Diameter, 0.0255 m. Width, 0.0034 m.
 1304. From behind South Building. Diameter, 0.0263 m. Width, 0.0034 m.
 1305. Diameter, 0.025 m. Width, 0.0034 m.
 1306. Diameter, 0.0255 m. Width, 0.0034 m.
 1307. Diameter, 0.0258 m. Width, 0.0035 m.
 1308. Diameter, 0.0278 m. Width, 0.0035 m.
 1309. Diameter, 0.026 m. Width, 0.0035 m.
 1310. Diameter, 0.0265 m. Width, 0.0035 m.
 1311. From south slope. Diameter, 0.0263 m. Width, 0.0035 m.
 1312. From south slope. Diameter, 0.0255 m. Width, 0.0035 m.
 1313. Diameter, 0.0255 m. Width, 0.0035 m.
 1314. Diameter, 0.0265 m. Width, 0.0035 m.
 1315. Diameter, 0.026 m. Width, 0.0036 m.
 1316. Diameter, 0.0275 m. Width, 0.0037 m.
 1317. Diameter, 0.0263 m. Width, 0.0038 m.
 1318. Diameter, 0.025 m. Width, 0.004 m.
 1319. From south slope. Diameter, 0.026 m. Width, 0.004 m.
 1320. Diameter, 0.026 m. Width, 0.004 m.
 1321. From south slope. Diameter, 0.025 m. Width, 0.004 m.
 1322. Diameter, 0.026 m. Width, 0.004 m.
 1323. Diameter, 0.026 m. Width, 0.0043 m.
 1324. Diameter, 0.0258 m. Width, 0.0043 m.
 1325. From behind South Building. Diameter, 0.0253 m. Width, 0.0043.
 1326. Diameter, 0.0264 m. Width, 0.0043 m.
 1327. Diameter, 0.0255 m. Width, 0.0044 m.
 1328. Diameter, 0.027 m. Width, 0.0044 m.
 1329. From south slope. Diameter, 0.026 m. Width, 0.0044 m.
 1330. Diameter, 0.026 m. Width, 0.0044 m.
 1331. Diameter, 0.026 m. Width, 0.0044 m.
 1332. Diameter, 0.025 m. Width, 0.0044 m.
 1333. From West Building. Diameter, 0.026 m. Width, 0.0044 m.
 1334. Diameter, 0.0253 m. Width, 0.0044 m.

1335. From south slope. Diameter, 0.026 m. Width, 0.0044 m.

1336. Diameter, 0.0275 m. Width, 0.0047 m.

1337. Diameter, 0.0265 m. Width, 0.0049 m.

1338. Diameter, 0.0299 m. Width, 0.0049 m.

1339. From behind South Building. Diameter, 0.0285 m. Width, 0.005 m.

1340. Diameter, 0.0277 m. Width, 0.0051 m.

(b'.) Open; but probably owing to accident.

1341. Diameter, 0.026 m. Width, 0.0014 m.

1342. Diameter, 0.0252 m. Width, 0.0023 m.

1343. Diameter, 0.0264 m. Width, 0.0046 m.

1344. Diameter, 0.0278 m. Width, 0.0055 m.

Addenda to FORM 4, Class β . In the following original width of break is uncertain.

1345. Diameter, 0.0188 m. Width, 0.0013 m.

Group i.

1346. Diameter, 0.0225 m. Width, 0.0015 m.

1347. Diameter, 0.0228 m. Width, 0.0015 m.

1348. Diameter, 0.023 m. Width, 0.0019 m.

1349. Diameter, 0.0223 m. Width, 0.0023 m.

1350. Diameter, 0.022 m. Width, 0.002 m.

1351. Diameter, 0.023 m. Width, 0.0021 m.

1352. Diameter, 0.023 m. Width, 0.0024 m.

In following numbers, bent examples, the ends overlap.

1353. Diameter, 0.02 m. Width, 0.0019 m.

1354. Diameter, 0.022 m. Width, 0.0027 m.

Group ii.

1355. Diameter, 0.0278 m. Width, 0.0029 m.

1356. Diameter, 0.026 m. Width, 0.006 m.

FORM 5. TRANSITIONAL, SIMILAR TO FORM 4,

BUT INSIDE AND OUTSIDE ARE FORMED EACH OF THREE FLAT PLANE SURFACES, THAT IS, A CENTRAL BAND WITH A SLOPING BEVEL AT EITHER SIDE.

1357. From behind South Building. Diameter, 0.029 m. Width, 0.0043 m.

Discards of Type a:

FORM 1, Group i.: one, complete, from West Building; and three fragments, of which one from south slope.

FORM 2, Group ii.: three fragments, of which one from south slope. Group iii.: two complete and two fragments. Group iv.: one fragment.

FORM 3, *Class a*, Group i.: one fragment from south slope. *Class β* : one complete.

FORM 4, *Class a*, Group ii.: eleven fragments, of which one from West Building, one from south slope, one from east end of Second Temple. Group iii.: one complete and one fragment. *Class β* , Group i.: three complete and thirteen fragments, of which one from West Building, one from south slope, and two from behind South Building. Group ii.: four fragments.

Also fourteen complete, and forty-three incomplete pieces, unclassified.

Type b. Large rings, of forms analogous to those of Type a.

FORM 1. COMBINATION OF TWO RINGS, ONE LARGER AND OPEN, SIMILAR TO **Type a**, FORM 1; THE OTHER BEING SMALLER AND ALSO CLOSED, SIMILAR TO **Type a**, FORM 2.

1358. From behind South Building. Diameter of larger ring, 0.0435 m. Width, 0.0047 m. Opening diagonal and probably original. Diameter of smaller ring, 0.032 m. Width of the same, 0.0042 m.

FORM 2. SINGLE RINGS. SOMEWHAT SIMILAR TO **Type a**, FORM 2.

1359. Much worn. Diameter, 0.059 m. Width, 0.0085 m.

FORM 3. SOMEWHAT SIMILAR TO **Type a**, FORM 3, *Class a*, BUT FLATTER.

1360. From behind South Building. Diameter, 0.0563 m. Width, 0.0032 m.

1361. Diameter, 0.0805 m. Width, 0.0067 m. Surfaces nearly flat.

FORM 4. SOMEWHAT SIMILAR TO **Type a**, FORM 4, *Class a*.

1362. Fragment. Diameter, 0.0715 m. Width, 0.005 m. On one side, uncertain traces of oblique lines.

Type c. Outside and inside convex, consisting of two flat, or nearly flat, surfaces meeting at an angle.¹

FORM 1. ANGLES OF UPPER AND LOWER SIDES PLAIN. INNER CONVEXITY LESS THAN OUTER.

Group i. Outside diameter, 0.02 m.—0.025 m.

1363. From West Building. Diameter, 0.0238 m. Width, 0.0028 m.

1364. Diameter, 0.023 m. Width, 0.003 m.

1365. Diameter, 0.0225 m. Width, 0.003 m.

1366. Diameter, 0.023 m. Width, 0.0032 m.

1367. Diameter, 0.023 m. Width, 0.0037 m.

1368. Diameter, 0.0237 m. Width, 0.0039 m.

1369. Diameter, 0.0223 m. Width, 0.0044 m.

Group ii. Outside diameter, 0.025 m.—0.03 m.

1370. Diameter, 0.027 m. Width, 0.0029 m.

1371. Diameter, 0.025 m. Width, 0.0032 m.

1372. From behind South Building. Diameter, 0.0274 m. Width, 0.0039 m.

1373. Diameter, 0.0258 m. Width, 0.0039 m.

¹ With this type, cf. specimen from Novilara, *Mon. Ant. Linc.* V. col. 140 (Brizio).

1374. Diameter, 0.025 m. Width, 0.0049 m.
1375. From behind South Building. Diameter, 0.0265 m. Width, 0.0049 m.

1376. Diameter, 0.0297 m. Width, 0.0064 m.

1377. Diameter, 0.029 m. Width, 0.007 m.

Group iii. Outside diameter, 0.03 m.—0.035 m.

1378. Diameter, 0.031 m. Width, 0.007 m.

Group iv. Outside diameter, 0.035 m.—0.04 m.

1379. From south slope. Diameter, 0.037 m. Width, 0.008 m.

Group v. Outside diameter over 0.04 m.

1380. Diameter, 0.041 m. Width, 0.008 m.

FORM 2. INNER SURFACES CARRIED PAST JUNCTION-POINT WITH OUTSIDE SURFACES, THUS MAKING INSIDE APPARENTLY THICKER THAN OUTSIDE AND OF ABOUT EQUAL AND SOMETIMES GREATER WIDTH.¹

Group i. Outside diameter, 0.02 m.—0.25 m.

(a'.) Closed.

PLATE XCI.

1381. Diameter, 0.0225 m. Width, 0.0024 m.

1382. Diameter, 0.021 m. Width, 0.0026 m.

1383. Diameter, 0.0215 m. Width, 0.0026 m.

1384. Diameter, 0.0205 m. Width, 0.0026 m.

1385. Diameter, 0.0225 m. Width, 0.0026 m.

1386. Diameter, 0.0227 m. Width, 0.0026 m.

1387. Diameter, 0.0225 m. Width, 0.0027 m.

1388. Diameter, 0.024 m. Width, 0.0028 m.

1389. Diameter, 0.0248 m. Width, 0.0028 m.

1390. From south slope. Diameter, 0.0225 m. Width, 0.003 m.

1391. Diameter, 0.024 m. Width, 0.0027 m.

1392. Diameter, 0.0225 m. Width, 0.003 m.

1393. Diameter, 0.0239 m. Width, 0.003 m.

1394. Diameter, 0.0221 m. Width, 0.003 m.

Possible traces of row of dots.

1395. Diameter, 0.023 m. Width, 0.0033 m.

1396. Diameter, 0.0233 m. Width, 0.0033 m.

1397. Diameter, 0.023 m. Width, 0.0033 m.

1398. Diameter, 0.024 m. Width, 0.0033 m.

1399. Diameter, 0.024 m. Width, 0.0034 m.

1400. Diameter, 0.0245 m. Width, 0.0034 m.

1401. Diameter, 0.0235 m. Width, 0.0035 m.

1402. Diameter, 0.023 m. Width, 0.0035 m.

1403. Diameter, 0.0244 m. Width, 0.0035 m.

1404. Diameter, 0.024 m. Width, 0.0036 m.

1405. From West Building. Diameter, 0.0245 m. Width, 0.0036 m.

1406. Diameter, 0.0245 m. Width, 0.0039 m.

1407. Diameter, 0.0235 m. Width, 0.004 m.

1408. From West Building. Diameter, 0.0245 m. Width, 0.004 m.

1409. Diameter, 0.0245 m. Width, 0.004 m.

1410. Diameter, 0.0243 m. Width, 0.0047 m.

1411. Diameter, 0.024 m. Width, 0.0045 m.

The following numbers are ornamented.

1412. Diameter, 0.0227. Width, 0.003 m. On one side of outer convexity, at inner and outer edge, row of short oblique lines close together. Traces of similar lines on other side.

1413. Diameter, 0.0234. Width, 0.0033 m. Ornament similar to that of No. 1412. Many of the lines have arrowhead form.

1414. Diameter, 0.0245 m. Width, 0.0035 m. Ornamentation similar.

1415. Diameter, 0.0245 m. Width, 0.004 m. Ornamentation similar.

1416. Diameter, 0.0249 m. Width, 0.0043 m. Ornamentation similar.

1417. From south slope. Diameter, 0.024 m. Width, 0.0043 m. Ornamentation similar.

(b'.) Open.

1418. Diameter, 0.0235 m. Width, 0.0035 m. Break probably intentional. Faint traces of same decoration.

Group ii. Outside diameter, 0.025 m.—0.03 m.

(a'.) Closed.

1419. Diameter, 0.026 m. Width, 0.0035 m.

1420. Diameter, 0.0255 m. Width, 0.0035 m.

1421. From behind South Building. Diameter, 0.0255 m. Width, 0.0035 m.

1422. Diameter, 0.0256 m. Width, 0.0036 m.

1423. Diameter, 0.025 m. Width, 0.0038 m.

1424. Diameter, 0.0257 m. Width, 0.0038 m.

1425. Diameter, 0.0252 m. Width, 0.0042 m.

1426. Diameter, 0.0259 m. Width, 0.0047 m.

1427. Diameter, 0.0254 m. Width, 0.0047 m.

1428. Diameter, 0.0255 m. Width, 0.0047 m.

1429. From south slope. Diameter, 0.025 m. Width, 0.0047 m.

1430. Diameter, 0.025 m. Width, 0.0047 m.

1431. From behind South Building. Diameter, 0.0264 m. Width, 0.0047 m.

1432. Diameter, 0.025 m. Width, 0.0049 m.

1433. From behind South Building. Diameter, 0.0258 m. Width, 0.0052 m.

1434. From behind South Building. Diameter, 0.0258 m. Width, 0.0053 m.

1435. Diameter, 0.028 m. Width, 0.0055 m.

The following are ornamented.

¹ Cf. *Olympia*, No. 443.

1436. Diameter, 0.026 m. Width, 0.0032 m. Both sides have two rows of fine lines.

1437. Diameter, 0.0252 m. Width, 0.0035 m. Both sides have two rows of fine irregular hooked lines. Cf. No. 1413.

1438. Diameter, 0.0251 m. Width, 0.0039 m. On one side, inner band of short parallel oblique lines. On other side, traces of same on both edges.

1439. From south slope. Diameter, 0.0265 m. Width, 0.004 m. One side has outer row of lines and inner row of dots; on other side, outer lines visible, but dots uncertain.

1440. Diameter, 0.0255 m. Width, 0.004 m. One side similar to No. **1436**.

1441. From south slope. Diameter, 0.0254 m. Width, 0.004 m. Both sides similar to No. **1436**.

1442. Diameter, 0.025 m. Width, 0.0043 m. Ornament similar to that of No. **1436**, but lines oblique.

1443. Diameter, 0.0253 m. Width, 0.0044 m. On one side, groove at outer edge and row of oblique lines at inner edge with zigzag connecting the two.

1444. Diameter, 0.026 m. Width, 0.0044 m. Ornament similar to that of No. **1442**.

1445. Diameter, 0.0265 m. Width, 0.00245 m. Ornament probably similar to that of No. **1442**, but one row on one side doubtful.

1446. From West Building. Diameter, 0.025 m. Width, 0.0045 m. Ornament similar to that of No. **1436**.

1447. From West Building. Diameter, 0.0255 m. Width, 0.0045 m. Ornament similar to that of No. **1442**.

1448. From south slope. Diameter, 0.0265 m. Width, 0.0047 m. Ornament similar to that of No. **1436**, but lines shorter.

1449. From south slope. Diameter, 0.027 m. Width, 0.0057 m. On both sides, row of short oblique lines at inner angle, and of dots just outside centre.

(b'.) Open.

1450. From West Building. Diameter, 0.026 m. Width, 0.005 m. Edges of opening close. Traces of ornament like preceding numbers.

FORM 3. EDGES FLATTENED, SOMETIMES WITH CONVEXITY LIKE A ROLL.

Class a. Outer convexity similar to that of preceding FORM 2.

Group i. Outside diameter, 0.025 m.-0.03 m.

(a'.) Closed.

1451. Diameter, 0.026 m. Width, 0.0045 m.

1452. Diameter, 0.0275 m. Width, 0.0052 m.

(b'.) Open (apparently).

1453. Diameter, 0.0276 m. Width, 0.005 m. Opening joined at bottom; perhaps due to oxidation.

Group ii. Outside diameter, 0.03 m.-0.035 m.

1454. Diameter, 0.032 m. Width, 0.0051 m. Groove round about half ring on outer edge of one flange.

Class β. At either side of outer angle of outer convexity, a groove.

1455. Diameter, 0.025 m. Width, 0.005 m. Traces of notching on band between grooves.

Class γ. Raised band at outer angle of outer convexity is grooved.

1456. Diameter, 0.035 m. Width, 0.0085 m. Raised band low and slight.

Addendum to FORM 3.

1457. Diameter, 0.0245 m. Width, 0.0047 m. Type doubtful. Ends overlap. Both surfaces of outer convexity have band of arrowheads. Near ends are grooves encircling bar, two on one end, three and a half on other.

Discards of Type c:

FORM 1, Group i.: two.

FORM 2, Group i.: one complete and twelve broken, of which one from behind South Building and two from south slope. Group ii.: three complete and nine broken, of which two from behind South Building.

FORM 3, *Class a*, Group i.: two nearly complete.

Combinations of Types a and c.

1458. Ring of **Type a**, FORM 4, *Class β*, Group ii., (a') oxidized together with one of **Type c**, FORM 2, Group ii., (a'). First: diameter, 0.025 m. Width, 0.0023 m. Second: diameter, 0.025 m. Width, 0.0045 m., with traces on each side of line of dots. Oxidation prevents certainty as to original condition.

1459. Ring of **Type a**, FORM 4, *Class a*, Group ii., (a') joined by wire to one of **Type c**, FORM 2, Group i., (a'). First: diameter, 0.022 m. Width, 0.0024 m. Second: diameter, 0.0233 m. Width, 0.0034 m. Connecting wire round and of shape like No. **810**.

Type d. Bar nearly rectangular. Plain open rings.

1460. Diameter, 0.022 m. Width, 0.0025 m. Ends show slight taper and overlap.

1461. Diameter, 0.0304 m. Width, 0.003 m. Ends taper and overlap.

Type e. Plain. Bar flat on under side, but rounded on top and sides.

1462. From south slope. Diameter, 0.0225 m. Width, 0.0033 m. Groove on bottom near inner edge.

Type f. Plain, slightly elliptical bar. Ring open and end coiled.

1463. One end broken. Diameter, 0.026 m. Width, 0.0037 m.

Type g. Threaded elliptical bar. Open.

1464. From West Building. Diameter, 0.0265 m. Width, 0.0036 m. Four parallel threads.

Type h. Band rings (plain) of nearly uniform thickness; inside flat or very slightly convex; outside slightly convex.

1465. Diameter, 0.0245 m. Width, 0.002 m.

1466. Diameter, 0.0275 m. Width, 0.0008 m.

Type i. Plain solid band rings with inside flat, outside convex, and thin edges.¹

FORM 1. OUTER SURFACE DOES NOT HAVE POINT OF GREATEST CONVEXITY PROMINENT.

(a'.) Closed.

1467. From behind South Building. Diameter (inside), 0.019 m. Height, 0.0105 m.

1468. Diameter (inside), 0.0193 m. Height, 0.0114 m. On inside, thin metal band runs around with ends overlapping.

(b'.) Open.

1469. Diameter (inside), 0.019 m. Height, 0.0123 m.

FORM 2. POINT OF GREATEST CONVEXITY PROMINENT.

1470. Diameter (inside), 0.0185 m. Height, 0.0099 m.

1471. From south slope. Diameter (inside), 0.0194 m. Height, 0.01 m.

1472. Diameter (inside), 0.018 m. Height, 0.0113 m.

1473. Diameter (inside), 0.018 m. Height, 0.012 m.

1474. Diameter (inside), 0.0195 m. Height, 0.0125 m.

1475. Diameter (inside), 0.0205 m. Height, 0.0128 m.

1476. Diameter (inside), 0.0205 m. Height, 0.013 m.

1477. From West Building. Diameter (inside), 0.017 m. Height, 0.014 m.

¹ With this type cf. *Olympia*, Nos. 434-436, especially last, which is common there, according to Furtwängler.

1478. Diameter (inside), 0.0185 m. Height, 0.0145 m.

1479. Diameter (inside), 0.022 m. Height, 0.017 m.

1480. From West Building. Diameter (inside), 0.02 m. Height, 0.02 m.

Discards: FORM 1, one fragment.

Type j. Similar to preceding, but edges are broader and protrude over inside, which thus becomes concave. One example ornamented.²

1481. Diameter (outside), 0.025 m. Height, 0.0055 m.

1482. From behind South Building. Diameter, 0.028 m. Height, 0.0155 m. Ornamented with engraved line around centre and irregular zigzag at each side.³

Type k. Similar to type i. Exterior convex, though portions between either edge and line of greatest convexity are concave.

(a'.) Closed.

1483. Diameter (inside), 0.019 m. Height, 0.0154 m.

1484. Diameter (inside), 0.0198 m. Height, 0.0155 m.

1485. Diameter (inside), 0.02 m. Height, 0.0155 m. On inside, a flat spiral band going nearly twice around middle. Width, 0.0035 m. Probably not attached.

1486. Diameter (inside), 0.0192 m. Height, 0.0115 m.

1487. Diameter (inside), 0.0195 m. Height, 0.0228 m.⁴

1488. Diameter (inside), 0.0219 m. Height, 0.023 m.

1489. Diameter (inside), 0.02 m. Height, 0.029 m.

(b'.) Open.

1490. Diameter (inside), 0.019 m. Diameter (outside), 0.0225 m. Height, 0.008 m.

1491. From behind South Building. Diameter (inside), 0.0197 m. Height, 0.0109 m.

1492. From behind South Building. Diameter (inside), 0.019 m. Height, 0.013 m.

1493. From south slope. Diameter (inside), 0.019 m. Height, 0.0165 m.

1494. Diameter (inside), 0.0198 m. Height, 0.02 m. Opening straight with beveled edges.

1495. Diameter (inside), 0.0195 m. Height,

² Cf. gold ring in museum at Eleusis with outside plain and convex and inside concave.

³ Drawing somewhat inaccurate. ⁴ Cf. *Olympia*, No. 435.

0.0108 m. Opening straight, with beveled edges. Fine engraved line close to outer edges, and close to centre on each side. Between each two lines, zigzag. Zigzag made of minute arrowheads.

Discards of Type k: one open, one closed, one fragment.

Type l. Central convexity sharply marked. Closed.

FORM 1. RATHER THIN AND SOMEWHAT SIMILAR TO Type k.

1496. From south slope. Diameter (inside), 0.0214 m. Height, 0.0235 m.

FORM 2. SHARPLY DEFINED NARROW CONVEXITY, FROM WHICH THE ENDS TAPER OFF SLIGHTLY.

1497. From West Building. Diameter (inside), 0.017 m. Height, 0.0215 m.

Type m. Similar to Type l, but ends terminate in rim. Closed.

1498. From West Building. Diameter (inside), 0.021 m. Height, 0.0425 m. Each end has zigzag between centre and rim. Line of zigzag is itself a fine zigzag.

Type n. Rings of sheet bronze, sometimes rather thick, with form of plain, straight bands, with or without engraved or punched ornamentation.

(a'.) Closed and unornamented.

1499. Diameter (inside), 0.0184 m. Height, 0.0125 m.

1500. Inside diameter, 0.019 m. Height, 0.026 m.

1501. Inside diameter, 0.015 m. Height, 0.028 m.

The above appear to be ferrules.

(b'.) Open and ornamented.

1502. Diameter (inside), 0.016 m. Height, 0.063 m. Zigzag on outside, from end to end, like that of No. **1498**.

1503. Diameter (inside), 0.0215 m. Height, 0.0091 m. Zigzag on outside.

1504. Diameter (inside), 0.0167 m. Height, 0.0098 m. Around centre, double band of short lines.

1505. Bent flat. Diameter, as bent, 0.0198 m. Height, 0.012 m. About centre, zigzag, from which diverge similar zigzags, running to edges at angle.¹

1506. Part of one end gone. Diameter (inside), 0.025 m. Height, 0.0172 m. Zigzag ornamentation.

1507. Bent flat. Diameter, as bent, 0.017 m.

¹ Cf. *Olympia*, No. 403.

Height, 0.027 m. Ornamented with rows of round punch-marks struck from inside. Ring coiled about one and a half times.

1508. Preservation poor. Bent flat. Diameter, as bent, 0.026 m. Height, 0.0363 m. Ring coiled. Ornamented with three rows of elliptical marks punched from inside. Part hidden by coiling not decorated.

Discarded: four.

Type o. Open ring of rather thick sheet bronze (band-ring), with end or ends terminating in coil of wire.

1509. One end broken. Diameter, 0.017 m. Width, 0.0009 m. Height, 0.0072 m.²

Type p. Rings of sheet bronze, with sides straight or nearly so, but with a raised band about centre, as though in imitation of the heavy rings of types k and l, from which types they are, however, distinguished by showing the concavity on the inside. Open.

FORM 1. CENTRAL RAISED ZONE NOT DISTINGUISHED FROM FIELD EXCEPT BY ELEVATION.

1510. Diameter (inside), 0.0217 m. Height, 0.0098 m.

1511. Fragment. Length, 0.04 m.

1512. Diameter (inside), 0.021 m. Height, 0.011 m. Traces of zigzag on each end.

1513. Diameter (inside), 0.02 m. Height, 0.018 m. Ends flare slightly. Each end has zigzag made of a zigzag line.

1514. Diameter (inside), 0.018 m. Height, 0.0255 m. Made of two separate pieces of bronze, one inside the other, each forming complete ring. Inner ring thicker than outer. On both ends of outer ring, traces of zigzag. Similar to that of No. **1513**.

1515. Fragment. Length, 0.032 m. Height, 0.046 m. Zigzag as before.

1516. From south slope. Condition poor. Diameter (inside), 0.0225 m. Height, 0.0523 m. Traces of zigzag.

1517. Bent flat. Diameter as bent, 0.029 m. Height, 0.054 m. Zigzag on ends, as in No. **1513**.

1518. From south slope. Fragment. Diameter (inside), 0.029 m. Height, 0.059 m. Zigzag as in No. **1513**.

FORM 2. HIGHEST PART OF RAISED CENTRAL ZONE HAS GROOVE ON EITHER SIDE.

1519. Fragment. Diameter (inside), 0.0185 m. Height, 0.0085 m. Zigzag as above.

² Cf. *Olympia*, No. 404.

1519 a. From below Cyclopean wall, 1893. Fragment. Diameter (inside), 0.0175 m. Height, 0.0185 m. Zigzag as above. Possibly the two above pieces are of one ring.

1520. Diameter (inside), 0.0245 m. Height, 0.0145 m. Usual zigzag.

1521. From south slope. Part gone. Bent open. Height of half of original, 0.0095 m. Close to edge, three fine engraved lines. Between them and centre, usual zigzag.

1522. Condition poor. Diameter (inside), 0.02 m. Height, 0.0195 m. Two engraved lines close to each end, and zigzag between them and centre.

1523. Bent. Diameter (inside), 0.0185 m. Height, 0.023 m. Close to edge, two lines, between which and centre, usual zigzag.

1524. Part gone. Diameter (inside), 0.0218 m. Height of half of original, 0.013 m. On one side of central raised zone, one engraved line; on other side, two. Close to outer edge, four fine lines, between which and centre, zigzag of usual sort. Attached to inside is band, about 0.008 m. in width.

Discards of Type p:

FORM 1: unornamented, one; ornamented, two, of which one from south slope, and one fragment.

FORM 2: ornamented, two fragments.

D. STRUCTURAL RINGS OF VARIOUS KINDS.

Type a.

1525. Broken. Diameter (outside), 0.055 m. Width, 0.0049 m. Height, 0.0055 m. Bar plain. On one side drilled hole. On opposite side excrescence. Can hardly be any sort of fibula.

Type b.

1526. Diameter, 0.049 m. and 0.052 m. Width of bar, 0.009 m. Height, 0.008 m. Outer edge forms narrow rim. Top side slopes in somewhat. Bottom flat.

Type c.

1527. From West Building. Diameter of top, 0.037 m. Diameter of bottom, 0.047 m. Top, bottom, and inside about flat. Outside slightly concave. Above bottom, engraved line.

Type d.

1528. Diameter, 0.032 m. Height, 0.004 m. Outside tapers upward. Top slopes down. Under side flat, but sloping up.

PLATE XCII.

1529. From West Building. Diameter,

0.0423 m. Inside diameter, 0.0225 m. Height, 0.005 m. Outer side beveled toward top and bottom. Upper bevel concave. Under side flat, but inner edge beveled.

1529 a. Diameter, 0.0868 m. Diameter (inside), 0.05 m. Height, 0.0105 m. Upper outer surface slopes down and out, with slight convexity. Upper inner surface slopes in with concavity. Under surface flat. Upper outer surface has two heavy grooves near top, and two lighter ones near bottom.

Type e.

1530. Nearly half gone. Diameter, 0.0465 m. Height, 0.006 m. Same general shape as No. 1529, but outer edge corrugated with angular teeth.

1531. Diameter, 0.05 m. Height, 0.0105 m. Same shape. Top concave, slants in. Bottom flat. Outer edge corrugated.

1532. From behind South Building. Diameter, 0.04 m. Diameter (inside), 0.009 m. Outside slants up and has uneven, broad, low corrugations. Top slants inward, at first sharply, then gradually. Bottom flat. Near edge a groove, on either side of which are semicircles adjoining one another.

Type f.

1533. Diameter, 0.041 m. Diameter (inside), 0.013 m. Height, 0.001 m. and less.

PLATE CXXXVII.

1533 a. 1533 b. 1533 c. Similar to No. 1533.¹

PLATE XCII.

Type g.

1534. Diameter, 0.0475 m. Diameter (inside), 0.022 m. (Height inside), 0.006 m. (outside), 0.001 m. No distinction of upper and under sides. Both slightly convex.

Type h.

1535. Half gone. Diameter, 0.028 m. Diameter (inside), 0.018 m. Height, 0.002 m. Top slopes to outer edge, which has blunt pointed teeth.

Type i.

1536. Diameter, 0.057 m. Diameter (inside), 0.035 m. Height, 0.0065 m. Upper side of two surfaces; both concave, and sloping downward. Under side convex.

Type j.

1537. Condition poor. Diameter, 0.025 m.

¹ Cf. flat disk rings of diameter 0.02 m. to 0.1 m., with holes slightly larger than one third diameter. Mus. Kircheriano, Prov. di Cosenza, Comune di Spezzano Albanese,

Necrop. di Torre del Mordillo, Tomba I. *Bull. di Palet. It.* XIV. (1888), p. 139. *Notiz. degli Scavi*, 1888, pp. 240 ff.

Diameter (inside), 0.009 m. Height, 0.0075 m. Upper surface slopes down and out. Neck rises around hole.

1538. Diameter, 0.042 m. Diameter (inside), 0.0115 m. Height, 0.008 m. Around hole, neck. Upper surface slopes down and out convexly. Under side slopes up and into neck.

1539. Diameter, 0.0645 m. Diameter (inside), 0.028 m. Height, 0.01 m. Neck tapers down. Top of neck flat. Upper surface convex. Inner surface slants upward and inward convexly.

Type k.

1540. Edges look broken. Diameter, 0.042 m. Outside of top and sides smooth; inside rough. Looks like cap for end of bar.

E. PIECES OF WIRE TWISTED INTO FORM OF RINGS. OPEN.

Type a. Rounded wire bar.

1541. Diameter, 0.185 m. Width, 0.0008 m.

1542. Diameter, 0.02 m. Width, 0.0009 m.

1543. Diameter, 0.0245 m. Width, 0.0012 m.

1544. Diameter, 0.0267 m. Width, 0.002 m.

1545. Much bent. From south slope. Diameter, 0.027 m. Width, 0.0024 m.

Discards of Type a: nine.

Type b. Bar irregularly rectangular.

1546. Diameter, 0.083 m. Diameter (inside), 0.067 m. Width, of bar, circ. 0.004 m. Bar mostly rectangular, but projecting end twisted and flattened. Object uncertain, but the elaborate knot can hardly be unintentional.

4. BEADS.

Type a.

1547. Length, 0.04 m. Diameter, 0.0165 m. Slightly concave from centre to ends.¹

Type b.²

1548. Length, 0.051 m. Diameter, 0.02 m. Concave from centre to ends.

1549. Length, 0.061 m. Diameter, 0.0325 m. Concave ends.

1550. In part destroyed. Length (estimated), 0.066 m. Diameter, 0.0355 m. Concave ends.

Type c.

1551. From near wall behind west end of Stoa. Length, 0.0245 m. Diameter, 0.022 m.³

¹ Cf. *Olympia*, No. 432. Similar specimen from Megara Hyblaea, *Mon. Ant. Linc.* I. col. 890 (Orsi).

² With this type cf. *Olympia*, No. 444. For possible use of these beads, as well as of Nos. 1551, 1552, cf. *Olympia*, Nos. 814 b and 814 d.

³ Cf. *Olympia*, No. 440. Similar one from Megara Hyblaea, *Mon. Ant. Linc.* I. col. 888 (Orsi).

Type d.

1552. Length, 0.017 m. Diameter, 0.0225 m. Hole rectangular. One end slightly smaller than other and across it a groove. Convex from centre to ends.⁴

5. PENDANTS.

I. RING-FORM.

1553. Uncertain whether complete. Plain rounded wire coiled once with ends hanging down straight. Length, 0.022 m. Diameter of coil, 0.016 m. One end (and probably other) swells into small knob.

1554. From east of Second Temple. Horse-shoe-shaped wire, with ends bent outward and on each a disk. Height, 0.0265 m.

1555. From south slope. Three rings attached in triangular form. Diameters, 0.017 m.; 0.0185 m.; 0.0185 m. On one side engraved line between rings.⁵

II. WITH HOLE FOR SUSPENSION.

1556. From south slope. Bell-shaped object. Height, 0.0195 m. Four lines round bottom and three above middle.

1557. Height, 0.0385 m. Base square, 0.017 m. Lower part sides concave, pyramidal. At top, eyelet, and between this and base, a disk. Bottom has incuse cross. Might serve as seal.⁶

1558. Height, 0.0365 m. Round base with bar rising from centre. Bar consists of two concave surfaces meeting in projecting angle. At top of upper surface a grooved ring, above which an eyelet. Rounded gable top with two grooves. Height of disk, 0.0077 m. It is hollow with bars across, dividing it into six compartments. Possibly a seal.

1559. Hoop of bronze with lump of lead attached. Height, 0.033 m.

6. MIRRORS AND MIRROR-HANDLES.

I. MIRRORS WITH HANDLES OF SAME PIECE.

Handles have hole punched for suspension.

Type a. Entirely plain. Thin.

1560. Length, 0.042 m. (handle, 0.018 m.). Diameter of disk, 0.0265 m. Probably not a real mirror, but an imitation for votive purposes.

⁴ *Olympia*, No. 441, is similar in shape but has round hole.

⁵ Cf. *Olympia*, No. 462. Also Mus. Kircheriano, 56988 (Provincia di Mantova), Commune di Casalromano, Neerop. di Fontanella. It is somewhat larger.

⁶ Cf. *Olympia*, No. 430, which is more squat. Also specimen from Tegea, *Athen. Mitth.* V. p. 67, pl. iv. c.

1561. From behind South Building. Condition poor. Length, 0.14 m. (handle, 0.065 m.). Diameter of disk, 0.075 m. Made of two very thin sheets, of which outer surfaces are exactly alike, stuck together.

PLATE XCIII.

1562. Fragment. Length of handle, 0.06 m. Of one piece of metal.

Type b. Projections (or ears) at either side of upper end of handle.

Class a. Plain.

1563. Most of disk gone. Length, 0.184 m. (handle, 0.092 m.). Edges of handle slightly concave.

1564. Disk much injured. Length, 0.31 m. (handle, 0.143 m.). Disk slightly concave-convex.

Class β. Handle engraved.

PLATE XCIV.

1565. Edge of disk bent over. Piece of handle end gone. Length, 0.235 m. (handle, 0.105 m.). Rosette engraved about suspension hole, and at upper end of handle, a form of palmette. Disk slightly convex on ornamented side.

PLATE XCV.

1566. Much corroded surface. Length, 0.23 m. (handle, 0.0985 m.). Thickness of disk, 0.0008 m.–0.0017 m. Disk slightly convex. Rosette engraved round suspension hole, and above this, forming base to main design, three lines with oblique lines from centre line to outer ones. At top of handle the projections have irregular spiral. Between these run two lines with irregular criss-cross between them. Between this band and the lower one, bearded ithyphallic satyr to right (head to left) with cylix held over head in raised left hand. Feet have form of horse's hoof.¹

Type c. Thin and plain except for border of dots in repoussé about disk and handle. Most are small and not for actual use. Rim bent back slightly, outside dots giving appearance of convexity.²

PLATE XCIII.

1567. Length, 0.03 m. (handle, 0.0125 m.).

1568. Length, 0.028 m. Handle broken.

1569. From cutting above Old Temple toward tents. Handle broken. Length, 0.0285 m.

¹ First noticed by Dr. Bulle. Drawing not quite correct.

² Cf. mirrors from Cotillon (Bassac), 'Εφημ. 'Αρχ. 1903, coll. 175 f., fig. 9 (Kuruniotis).

1570. From south slope. Edges broken. Length, 0.034 m. Bending of rim uncertain.

1571. From cutting above Old Temple toward tents. Edges and handle broken. Length, 0.04 m. (handle, 0.013 m.). Diameter of disk, 0.0262 m.

PLATE XCIV.

1572. Length, 0.044 m. (handle, 0.0165 m.). Diameter of disk, 0.027 m. Near centre of disk, dot.

1573. End of handle gone. Length, 0.0374 m. (handle, 0.011 m.). Diameter of disk, 0.0273 m.

1574. Fragment. Diameter of disk, 0.0277 m.

1575. Handle broken. Length, 0.0404 m. Diameter of disk, 0.0335 m. In centre of disk, punch-mark.

PLATE XCV.

1576. Disk and handle broken. Diameter of disk, 0.0344 m.

1577. From West Building. Injured. Length, 0.059 m. (handle, 0.023 m.). Diameter of disk, 0.0375 m.

PLATE XCIII.

1578. Fragment. Length, 0.0765 m.

1579. Much broken. Diameter of disk (restored), 0.079 m. Edges of handles concave.

Discarded: two fragments of **Type c.**

Addenda to DIVISION I. Handles.

(a'.) With ears. Plain.

1580. Length, 0.0895 m.

(b'.) With ears. Ornamented.

PLATE XCVI.

1581. Broken in two pieces. Surface much corroded. Length, 0.134 m. Thickness, 0.0003 m.–0.0008 m. At top of central field, band with engraved braid of four coils. Within coils, a dotted circle, and dots between the two circles, others outside. At top of upper field, between ears zigzag between lines. Lower end of handle has rosette round three sides of suspension hole and zigzag beneath it, with dots opposite the openings. Above rosette, a zigzag between lines, and over the latter, row of dots surmounted by straight line. In main field of handle, a bearded draped figure to left.³ Wears talaric chiton and himation, the latter covered with scale pattern. Lower part of tunic has four rows of pleats. Left arm raised. Diadem on head. On either side of figure inscription: see *Appendix*, p. 332.

³ For drawing cf. skirt of Artemis in *Olympia*, No. 696, and corselet, *ibid.* pl. lix.

(c') Plain handles of uncertain type.
(Form of top uncertain.)

PLATE XCIII.

1582. From south slope. Length, 0.106 m.

1583. Length, 0.069 m.

1584. Length, 0.162 m.

The following seems to be ornamented.

PLATE XCVIII.

1585. Length, 0.0975 m. Central surface raised. Edges prominent. Possible traces down centre of braid-pattern.

II. MIRRORS WITH ATTACHED HANDLES.¹

Handles only.

1586. Length, 0.095 m. Closeness of heads of rivet to handle show that disk was very thin.

1587. Lower end gone. Upper end damaged. Remaining portion broken into seven pieces. Length, 0.19 m. Made of sheet of bronze rolled over at edges. Repoussé band down centre. Along edges and centre band runs a simple twist pattern made of double lines. Foot of handle has criss-cross of fine lines at top and traces of other decoration below. Rivet in centre and at left side.

III. MIRROR WITHOUT HANDLE — DISK MIRROR.

PLATES XCVI. — XCVIII.

1588. Diameter, 0.1305 m. About edge of front, raised beaded rim. Surface rises gradually to centre. Inside rim, horseshoe or leaf pattern, with double lines. Within this, engraved line, followed by double braid pattern, the basis of which is formed by a zigzag of curved line, with a dotted circle at every angle. Within this two engraved lines. In centre of each side, a minute depression, probably due to compasses of draughtsman. Back concave and has six engraved double concentric circles. Edge of back plain.

Addenda to mirrors (handles).

PLATE XCVIII.

1589. Uncertain object. Bottom broken. Length, 0.066 m. Hole punched in lower part.

1589 a. Both ends gone. Length, 0.026 m. Object uncertain. Disk on slightly lower level than handle on side from which dots are struck, the depression coming between the rows of dots.

7. OBJECTS IN SHEET BRONZE.

A. DIADEMS, ETC.

Of the following fragments the majority are probably from diadems; some are perhaps from girdles, others are uncertain.

a. Fragments with ornaments of punched dots (repoussé).

PLATE XCIX.

1590. Ends gone. Length, 0.09 m. Along edges two rows of dots; another row down centre of smaller end.

1591. From behind South Building. One end gone. Length (about), 0.027 m. Dots at irregular intervals along edge and near centre.

1592. From behind South Building. Fragment. Length, 0.0235 m. Six rows of dots parallel to edge.

1593. Fragment, perhaps from centre of diadem, or girdle. Length, 0.059 m. Single curved row of dots along centre. Possibly not of diadem, but of sheet metal for covering.

The following bits are of uncertain use.

1594. From behind South Building. Fragment of hook end of diadem-like ornament. Length, 0.0135 m. Dots along each side coming together at hook. One side convex. Hook made by bending over of end of sheet of metal, and perhaps accidental.

1595. Fragment. Diadem shaped. Length, 0.043 m. Line of holes along edges.

PLATE CXXXVII.

1596. Ends gone. Length, 0.062 m. Three rows of dots, of which two are continued round broad end and two dots on ridge in centre.

PLATE XCIX.

1596 a. Ends gone. Length, 0.036 m. Rows of dots along edges and down centre.

b. Fragments with engraved ornamentation and simple semi-corrugated ends.

1597. Fragment; one end gone. Length, 0.137 m. Corrugations only go about two thirds round end. Along edges of flat part (or blade), on one side seems to be zigzag; other side plain.

1598. Similar to No. **1597**. Length, 0.1455 m. Under side of end flat as in No. **1597**. Front of blade has double zigzag along edges.

c. Blade engraved. End has form of pin-head.

1599. Ends probably broken. Length, 0.175 m.

¹ Cf. 'Εφημ. 'Αρχ. 1903, col. 173, fig. 8, No. 2, from Cotilon (Kuruniotis).

Rings and corrugations of end run all the way round. On one side a double zigzag on blade; double groove along edges and perpendicular zigzag lines running across blade from opposite angles of main zigzags. Other side plain.¹

B. DISKS.

DIVISION I. WITH HOLE IN CENTRE.²

Type a. Round.

FORM 1. PLAIN.

Diameter, 0.02 m.—0.025 m. Hole round.

1600. From south slope. Diameter, 0.021 m. Hole, 0.0027 m.

1601. Diameter, 0.021 m. Hole rectangular, 0.0022 m.

1602. Diameter, 0.0218 m. Hole, 0.0018 m.

1603. Diameter, 0.022 m. Hole, 0.003 m.

1604. Diameter, 0.022 m. Hole, 0.0015 m.

1605. Diameter, 0.0234 m. Hole, 0.0013 m.

1606. Diameter, 0.0235 m. Hole, 0.002 m.

The following numbers are somewhat thicker and look like washers.

1607. From behind South Building. Diameter, 0.021 m. Thickness (circ.), 0.001 m.

1608. From behind South Building. Diameter, 0.234 m. Thickness (circ.), 0.0009 m. Concave-convex.

Discard: one broken.

Diameter, 0.025 m.—0.03 m.

1609. Diameter, 0.025 m. Hole, 0.0022 m.

1610. Diameter, 0.0253 m. Hole, 0.0018 m.

1611. Diameter, 0.0265 m. Hole rectangular.

1612. Diameter, 0.0267 m. Hole, 0.001 m.

1613. From behind South Building. Diameter, 0.027 m. Hole, 0.0018 m.

1614. Diameter, 0.0276 m. Hole, 0.003 m.

1615. Diameter, 0.0284 m. Hole, 0.002 m.

1616. Diameter, 0.0284 m. Hole, 0.0028 m.

1617. From behind South Building. Diameter, 0.0292 m. Hole, 0.0015 m.

1618. Diameter, 0.0292 m. Hole, 0.0018 m.

Discards: two unbroken and twenty broken (of which two from behind South Building).

Diameter, 0.03 m.—0.035 m.

1619. Diameter, 0.03 m. — Rectangular punched hole, 0.002 m. \times 0.0015 m.

1620. Diameter, 0.0304 m. Hole, 0.0018 m.

1621. Diameter, 0.0305 m. Square hole, 0.0015 m.

¹ Rings and corrugations nearly identical with ends of spiral armlet from Boeotia, now in Berlin (*Jahrb.* III. p. 363, i).

² For plain disks with hole in centre on edge of quiver,

1622. Diameter, 0.0312 m. Hole, 0.001 m.

1623. Diameter, 0.0318 m. Hole square, 0.0017 m.

1624. Diameter, 0.0319 m. Hole, 0.019 m.

1625. Diameter, 0.0325 m. Hole, 0.0015 m.

1626. Diameter, 0.0328 m. Hole, 0.0012 m.

1627. Diameter, 0.033 m. Hole, 0.0016 m.

1628. Diameter, 0.0331 m. Hole, 0.0038 m.

1629. Diameter, 0.0333 m. Hole rectangular, 0.0015 m.

1630. Diameter, 0.0339 m. Hole, 0.0015 m.

1631. Diameter, 0.034 m. Hole, 0.0026 m.

1632. From behind South Building. Diameter, 0.034 m. Hole rectangular, 0.0025 m. \times 0.0055 m.

Discards: seven complete, six (two from South Building) nearly complete, and ten fragments (one fragment behind South Building, and one from south slope).

Diameter, 0.035 m.—0.04 m.

1633. Diameter, 0.035 m. Hole, 0.002 m.

1634. Diameter, 0.035 m. Hole, 0.001 m.

1635. Diameter, 0.035 m. Hole 0.0019 m.

1636. Diameter, 0.036 m. Hole, 0.0025 m.

1637. Diameter, 0.036 m. Hole, 0.0025 m. \times 0.004 m.

1638. Diameter, 0.0365 m. Hole, 0.0019 m.

1639. Diameter, 0.0365 m. Hole, 0.0015 m.

1640. From behind South Building. Diameter, 0.0365 m. Rectangular hole, 0.0019 m. \times 0.002 m.

1641. Diameter, 0.0368 m. Hole, 0.0014 m.

1642. Diameter, 0.0385 m. Nearly rectangular hole, 0.0015 m.

1643. Diameter, 0.039 m. Nearly rectangular. Length, 0.0016 m. \times 0.0023 m.

1644. Diameter, 0.039 m. Hole, 0.0017 m.

Discards: three complete and fourteen fragments.

Diameter, 0.04 m.—0.045 m.

1645. Diameter, 0.04 m. Hole, 0.0015 \times 0.0024 m.

1646. Diameter, 0.04 m. Hole, 0.0023 m.

1647. From behind South Building. Diameter, 0.041 m. Hole, 0.0015 m.

Discarded: two fragments.

Diameter, 0.045 m.—0.05 m.

1648. Diameter, 0.0485 m. Hole, 0.0024 m.

Diameter, 0.05 m.—0.112 m.

1649. Diameter, 0.051 m. Hole, 0.0015 + 0.001 m. Second hole near edge. Diameter, 0.0037 m. \times 0.0035 m.

Olympia, No. 717. For possible use for disks with edge, see necklaces on archaic terra-cotta figurines from Terravecchia, *Mon. Ant. Linc.* VII. coll. 239–241 (Orsi).

1650. Diameter, 0.0525 m. Rectangular hole, 0.003 m.

1651. From south slope. Diameter, 0.054 m. Hole, 0.004 m.

1652. Diameter, 0.056 m. Hole, 0.002 m.

1653. Diameter, 0.0605 m.

1654. From northeast corner of First Temple. Diameter, 0.0625 m.

1655. From West Building. Diameter, 0.063 m. Hole, 0.004 m. \times 0.0055 m.

1656. Diameter, 0.072 m. Hole, 0.003 m.

1657. Diameter, 0.091 m. Hole, 0.0055 m.

1658. From behind South Building. Diameter, 0.112 m. Hole, 0.0075 m.

Not quite certain that the two following belong here.

1659. Fragment. Diameter, 0.0525 m. Hole, 0.005 m.

1660. Fragment. Diameter, 0.067 m. Hole, 0.0055 m. Besides centre hole, several rectangular ones.

Discarded: seven fragments, of which one from back of South Building.

FORM 2. ORNAMENTED.

Class a. Single circle of punched dots, usually near edge.

1661. Diameter, 0.0134 m. Hole, 0.0014 m. Concave-convex.

Diameter, 0.02 m.—0.025 m.

1662. Diameter, 0.024 m. Hole, 0.0005 m.

Diameter, 0.025 m.—0.03 m.

1663. Diameter, 0.025 m.

1664. Diameter, 0.0267 m. Hole, 0.0015 m.

1665. Diameter, 0.0294 m.

1666. Diameter, 0.0282 m. Hole, 0.0022 m.

Discarded: three.

Diameter, 0.03 m.—0.035 m.

1667. Diameter, 0.0315 m. Hole, 0.0014 m.

1668. Diameter, 0.0305 m. Two holes together in centre.

1669. Diameter, 0.033 m. Hole, 0.0011 m.

1670. Diameter, 0.034 m. Hole, 0.0024 m.

Discarded: four.

Diameter, 0.035 m.—0.04 m.

1671. Diameter, 0.035 m. Hole, 0.0012 m.

1672. Diameter, 0.035 m.

1673. From behind South Building. Diameter, 0.0355 m. Hole, 0.0017 m.

1674. Diameter, 0.0355 m. Hole, 0.0017 m.

1675. Diameter, 0.0365 m.

Discarded: four.

Diameter, 0.04 m.—0.05 m.

1676. Diameter, 0.0425 m. Hole, 0.0018 m.

Discarded: three.

Diameter, 0.045 m.—0.05 m.

1677. Diameter, 0.0475 m.

1678. Diameter, 0.0495 m. Hole, 0.003 m. \times 0.0035 m.

Diameter, 0.05 m.

PLATE C.

1679. Diameter, 0.0605 m. Hole, 0.0028 m.

1680. Fragment. Diameter, 0.0725 m.

Discarded: two fragments.

Class β . Double circle of punched dots.

Diameter, 0.03 m.—0.035 m.

1681. From behind South Building. Diameter, 0.0345 m. Hole, 0.0015 m. \times 0.0016 m.

1682. Diameter, 0.035 m. Hole, 0.0012 m.

Diameter, 0.04 m.—0.005 m.

1683. Fragment. Diameter, 0.041 m. Hole, 0.0017 m. \times 0.003 m.

1684. Diameter, 0.049 m.

Discarded: two from behind South Building.

Class γ . Three or more rows of punched dots.

1685. Diameter, 0.0385 m. Rectangular hole, 0.0013 m. \times 0.002 m.

1685 a. (PLATE CXXXVII.). Diameter, 0.0455 m.

1686. Diameter, 0.092 m.

1687. Diameter, 0.1035 m.

1688. Diameter, 0.105 m. Hole, 0.0055 m.

1689. Diameter, 0.081 m. Hole, 0.0045 m.

1690. Fragment. Diameter (approximate), 0.092 m.

Class δ . Rectangle of punched dotted circles.

1691. Diameter, 0.0384 m. Slightly concave-convex. Hole, 0.0027 m. \times 0.0028 m.

Class ϵ . Cross and circle of punched dots.

1692. Diameter, 0.036 m. Hole, 0.0007 m.

Class ζ . Rosettes of dots with or without circles of dots.

Group i. Without circle.

1693. Diameter, 0.0405 m. Hole, 0.002 m.

Group ii. With circles.

1694. Diameter, 0.0394 m. Hole, 0.002 m.

1695. Diameter, 0.049 m. Hole, 0.0021 m.

1696. Diameter, 0.111 m. Rectangular hole, 0.0065 m. \times 0.007 m.

Class η . Engraved rosettes with or without engraved circles.

Group i. Without circles.

1697. Diameter, 0.0235 m. Rectangular hole, 0.0024 m. \times 0.0028 m. Slightly concave-convex.

1698. Diameter, 0.028 m. Hole, 0.001 m.

Group ii. With engraved circles.

1699. Diameter, 0.0322 m. Hole, 0.0034 m.

Type b. Elliptical.

1700. Diameter, 0.03 m. \times 0.024 m. Hole, 0.0017 m. About edge, row of dots.

Type c. Rectangular, with rounded corners.

Class a. Single circle of punched dots.

1701. Diameter, 0.022 m. \times 0.0315 m.

Discarded: one fragment.

Class β . Double circle of punched dots.

1702. From behind South Building. Diameter, 0.034 m. \times 0.024 m. Hole, 0.0014 m.

Type d. Triangular, with rounded corners.

1703. Length, 0.0033 m. \times 0.025 m. \times 0.0265 m. About edge, row of punched dots.

DIVISION II. WITHOUT HOLE IN CENTRE.¹

Type a. Plain centre and edges.

FORM 1. UNORNAMENTED. (There are no certain examples of this form.)

1704. From south slope. Much broken. Diameter, 0.037 m.

1705. Diameter, 0.054 m. Perhaps mirror disk.

1706. Diameter, 0.076 m. Perhaps mirror disk.

PLATE CI.

1707. Oval, of uncertain character. Diameter, 0.10 m. \times 0.077 m.

FORM 2. ORNAMENTED.

Class a. With one circle of punched dots.

Group i. Plain centre.

1708. Broken fragment. Diameter, 0.0335 m.

Discarded: one fragment (mirror disk?), from south slope.

Group ii. Dot in centre.

(*a'*.) Struck from same side as circle.

1709. Fragment. Diameter, 0.03 m.

(*b'*.) Struck from opposite side to circle.

1710. Fragment. Diameter, 0.0322 m.

1711. Broken fragment. Diameter, 0.052 m.

Class β . With two rings of dots, each ring being double.

1712. Diameter, 0.08 m.

Type b. With edge turned over.

FORM I. PLAIN.

1713. Diameter, 0.065 m.²

FORM 2. DIVIDED INTO CONCENTRIC ZONES, OF WHICH THE CONVEX SIDE IS ON SAME SIDE WITH ROLL.

Class a. With plain centre.

1714. Diameter, 0.113 m.

Class β . With two dots in centre.

1715. Diameter, 0.079 m.

Type c. Stamped rosette with hollow boss at centre and rings of dots outside.

1716. Fragment. Diameter, 0.011 m.

1716 a. Fragment.

1716 b. Fragment. From behind South Building.

Type d. Transitional.

1717. Diameter, 0.075 m. In centre, boss. Near edge, hole, 0.002 m. in diameter. Concavity probably not original. Next to boss, rays followed by ring of dots. Outside ring of dots, a ring of arrow points.

Discarded: thirty-three, unclassified, among which one from south slope and three from behind South Building.

Type e. Rectangular. Unornamented.

1718. From behind South Building. Length, 0.028 m. \times 0.033 m. Corners rounded.

PLATE CXXXVII.

1718 a. Fragment.

1718 b. Fragment. Bent. Radius about 0.07 m. Rosette of punched dots at centre, outside of which broad zigzag, the line of which is itself a narrow zigzag. Beyond, two rows of dots, and a narrower zigzag. On edge, single row of dots.

C. BINDING STRIPS.

Type a. Plain. Most have one original end left, and rivets.

PLATE CI.

1719. Length, 0.0423 m. Width, 0.0048 m.

1720. Length, 0.042 m. Width, 0.0053 m. Seems complete.

1721. Length, 0.1175 m. Width, 0.0065 m.

1722. From West Building. Length, 0.285 m. Width, 0.0085 m.³

1723. From behind South Building. Length, 0.033 m. Width, 0.008 m.

1724. Length, 0.0534 m. Width, 0.01 m.

1725. Length, 0.105 m. Width, 0.01 m.

1726. Length, 0.128 m. Width, 0.011 m.

1727. Length, 0.129 m. Width, 0.014 m.

¹ For use, note sarcophagus of Crepereia Tryphaena (Mus. Cap., Rome; found, 1889), containing plain bronze disk about four inches in diameter. *Bullett. Commiss. Com.* 1889, pp. 175, 496.

² Cf. large and small plain gold disks from Myce-

nae (fifth tomb, No. 691), with overlapping edges as if covers.

³ Cf. *Olympia*, No. 1226, and iron scrap from Tolentino, *Annali*, 1881, p. 217, tav. d'agg. Q No 1, called rim of shield.

1728. Length, 0.1435 m. Width, 0.0075 m.

Discarded: eighteen, of which one was from behind South Building.

Type b. With one or more disks attached by rivets.

1729. One end gone. Length, 0.044 m. Width, 0.0075 m. Fragment of disk at each end.

1730. From south slope. Ends broken. Bit of one disk. Length, 0.075. Width, 0.0078 m.

1731. Broken disk at each end. Length, 0.109. Width, 0.009 m.

1732. Broken disk at one end. Length, 0.135 m. Width, 0.011 m.

1733. Both ends gone. Length, 0.073 m. Width, 0.0118 m.

1734. Both ends and disks broken. Length, 0.105 m. Width, 0.012 m.

Discarded: four, of which one was from West Building.

Addendum. Disk ornamented with rosette.

1735. Fragment. Length, 0.089 m. Width, 0.0105 m.

Type c. With rectangular plates attached by one or more rivets.

1736. Ends gone. Length, 0.084 m. Width, 0.008 m.

1737. Broken across middle. Length, 0.211 m. Width, 0.013 m.

1738. One end gone. Length, 0.103 m. Width, 0.017 m.

1739. Fragments. Length, 0.146 m. Width, 0.02 m.

Addenda. Uncertain to which type the following number belongs.

1740. From behind South Building. Length, 0.076 m. Width, 0.0083 m.

As the following have no disk plate nor holes, it is not certain they belong here.

1741. One end gone. Length, 0.032 m. Width, 0.008 m. On one side, fine double zigzag lengthwise above centre.

1741 a. Object uncertain. Length, 0.066 m. Width, 0.012 m. Two small depressions at one end.

Discarded: nineteen others of the foregoing types.

The following pieces, while presenting analogies of form, are of uncertain classification and use.

1742. Both ends seem complete. Length, 0.058 m. Width, 0.0065.

PLATE CII.

1743. Both ends broken. Length, 0.10 m. Width, 0.0045 m. One edge beveled.

1744. Length, 0.143 m. Width, 0.007 m. One edge beveled.

1745. Both ends gone. Length, 0.09 m. Width, 0.0085 m. One edge beveled, and narrow raised band along other edge on one side.

1746. One end complete, other perhaps so. Length, 0.0562 m. Width, 0.0117 m. Thickness, 0.0015 m.-0.0028 m. All edges slightly beveled. At one end a E. See *Appendix*.

Type d. Large plain.

1747. Seems complete. Bent in middle. Length, 0.47 m. Width, 0.0575 m. Six holes punched through, in one of which (at end of band) are remains of iron rivet.

D. ORNAMENTED BANDS.

Type a.

1748. Part of one end preserved. Length, 0.0683 m. Width, 0.018 m. On one side, dots in double circle connected by tangents. Groove along edges.

Type b.

1749. Uncleaned because patinated. Found north of West Building near surface. Ends gone. Length, 0.04 m. Width, 0.008 m. Divided into three fields by two engraved lines. The larger middle field has circles connected by tangents, the two outer fields have semicircles opening outward.

Type c.

1750. Ends broken. Length, 0.121 m. Width (centre), 0.0154 m. Ends slightly wider. One side has rounded band along centre, with zigzags of double line on each side.

Type d.

1751. From behind South Building. Ends gone. Length, 0.12 m. Width, 0.054 m. Ornament of rosettes and dots.

E. COATINGS.

Type a. Rectangular. Flat surface.

FORM 1. ROW OF PUNCHED DOTS ALONG EACH SIDE.

1752. From West Building. Ends broken. Length, 0.032 m. Width, 0.011 m.¹

Discarded: seven fragments, of which one from south slope.

FORM 2. THREE ROWS OF DOTS.

Class a. Row along each edge and one down centre.

1753. One end gone. Length, 0.0335 m. Width, 0.016 m.

¹ Cf. *Olympia*, No. 303.

1754. Length, 0.078 m. Width, 0.035 m.
 1755. One end gone. Length, 0.0467 m. Width, 0.037 m.
 1756. Length, 0.066 m. Width, 0.0425 m.
 1757. Length, 0.074 m. Width, 0.044 m.
 1758. One end gone. Length, 0.041 m. Width, 0.044 m.
 1759. One end gone. Length, 0.074 m. Width, 0.0465 m.
 1760. Much bent. Length, 0.058 m. Width, 0.055 m.

Discarded: two, of which one was from behind South Building.

Class β. Same as preceding, but with dots across each end.

1761. Bent. Length, 0.027 m. Width, 0.034 m.
 1762. Bent and one end gone. Length, 0.046 m. Width, 0.035 m.
 1763. Bent. Length, 0.084 m. Width, 0.046 m.
 1764. Length, 0.078 m. Width, 0.049 m.
 1765. Length, 0.094 m. Width, 0.048 m.

Discarded: seven others, of which the condition was such that it is uncertain whether they are of *Class α* or *β*. One came from south slope.

FORM 3. FOUR ROWS OF DOTS.

Class α. Rows parallel.

1766. Length, 0.052 m. Width, 0.0425 m.

Discarded: two.

Class β. Same as preceding, but with dots across ends.

1767. Length, 0.057 m. Width, 0.0435 m.

FORM 4. FIVE ROWS OF DOTS.

Class α. Rows parallel.

1768. End gone. Condition poor. Length, 0.049 m. Width, 0.0042 m.

Class β. Same as Class α, but with dots across ends.

Group i. Single row at end.

1769. One end gone. Length, 0.022 m. Width, 0.0415 m.

Group ii. Double row at end.

1770. Length, 0.023 m. Width, 0.033 m.

Discarded: one of doubtful character.

FORM 5. SIX ROWS OF DOTS.

1771. From behind South Building. Both ends gone. Length, 0.047 m. Width, 0.0485 m.

1772. One end gone. Condition poor. Length, 0.095 m. Width, 0.045 m.

FORM 6. SIMILAR TO PRECEDING FORMS, BUT WITH ONE OR MORE ROWS OF DOTS DOUBLED.

1773. Fragment. Length, 0.035 m. Width, 0.019 m. Double row along one edge.

PLATE CIII.

1774. Fragment. Length, 0.063 m. Width, 0.038 m. Four rows; outer row double.

1775. Fragment. Length, 0.038 m. Width, 0.06 m. Three double rows.

FORM 7. MISCELLANEOUS.

1776. Fragment. Length, 0.048 m. Width, 0.033 m. Cross rows of dots.

1777. Fragment. Length, 0.085 m. Width, 0.046 m. Rows at angle to one another.

1778. End gone. Length, 0.09 m. Width, 0.052 m. Cross rows with zigzags in each panel.

FORM 8. PUNCHED DOTS AND ENGRAVING.

1779. End gone. Length, 0.049 m. Width, 0.03 m. Three rows of dots with zigzags between.

1780. Fragment. Length, 0.057 m. Width, 0.047 m. Two rows of dots and two zigzags.

1781. End gone. Length, 0.045 m. Width, 0.0355 m. Dots and zigzags.

1782. Length, 0.069 m. Width, 0.046 m. Dots and semicircles.

Discarded of Type a: thirty-seven fragments, of which five were from behind South Building, one from south slope, and four from West Building.

Type b. Rectangular. In centre on long axis, a raised convex band. All except two have zigzags; of these one (No. 1783) may have had; the other is No. 1792, in which the zigzag is apparent rather than real.

1783. From behind South Building. Fragment. Length, 0.052 m. Width, 0.032 m.

1784. One end gone. Length, 0.062 m. Width, 0.024 m.

1785. One end gone. Length, 0.062 m. Width, 0.03 m.

1786. Fragment. From behind South Building. Length, 0.063 m. Width, 0.035 m.

1787. Length, 0.081 m. Width, 0.036 m.

1788. Length, 0.09 m. Width, 0.041 m.

1789. One end gone. Length, 0.046 m. Width, 0.042 m.

1790. Length, 0.09 m. Width, 0.045 m.

1791. Fragment. Length, 0.05 m. Width, 0.058 m.

1792. Length, 0.066 m. Width, 0.075 m.

PLATE CIV.

1793. Length, 0.013 m. Width, 0.104 m.

Discarded: nine others of **Type b**, of which three were from behind South Building.

Type c. Rectangular. Punched and stamped ornaments.

FORM 1. INCUSE.

1794 (on PLATE CIII.). From south slope. Size, 0.044 m. × 0.0445 m. Made of two sheets of bronze folded at edges. Ornament: round depression in centre; this and corners have hollows and rings arranged geometrically.

1795. Length, 0.0475 m. Width, 0.0325 m. Along edges, dots. In centre, depression with irregular knob in centre, on which knob are repoussé dots. At each end, similar figure. Holes in corners with bronze nail in one.

FORM 2. REPOUSSÉ.

1796. Length, 0.0465 m. Width, 0.024 m. Nail holes at corners. Dots on edges. Down centre a long heavy oval, each end forked. Large raised dots on each side of oval.

F. RIMS.

(Of various uncertain objects.)

1797. Fragment. Length, 0.175 m. Width, 0.075 m. Edge turned over.

1797 a. Fragment. Length, 0.0715 m. Width, 0.007 m.

1797 b. Fragment. Length, 0.103 m. Width, 0.0255 m.

1797 c. Fragment. Length, 0.034 m. Width, 0.0175 m.

Discarded: two fragments, of which one was from behind South Building.

1798. Length, 0.117 m. Width, 0.06 m. Rivets in rim. Outside of fragment convex.

1799. Length, 0.194 m. Width, 0.072 m.

1799 a. Length, 0.068 m. Width, 0.061 m. Possibly piece of preceding.

1800. From behind South Building. Fragment. Length, 0.092 m. Width, 0.048 m. Dots in relief on upper side.

Discarded: one fragment.

G. PLATES OF BRONZE.

(None are complete.)

a. Plain.

FORM 1. ATTACHED.

1801. Uneleaned. Length, 0.042 m. Width, 0.051 m. Remains of rivet.

PLATE CV.

1802. Length, 0.168 m. Width, 0.165 m. Two rivet-holes. Color indicates much copper.

1802 a. Length, 0.159 m. Width, 0.106 m. Rivet-holes. Color indicates much copper.

¹ That is, at present. They may have been attached when complete.

PLATE CIV.

1803. Length, 0.106 m. Width, 0.0245 m. Rivet-holes with remains of rivets.

1804. From behind South Building. 0.055 m. × 0.054 m.

Discarded: seven fragments (one from behind South Building and one from West Building).

FORM 2. UNATTACHED.

1805. Fragment. Length, 0.084 m. Width, 0.063 m.

1806. Length, 0.158 m. Width, 0.125 m.

1807. Length, 0.073 m. Width, 0.03 m. On right side of smaller end, four cuts made by edged tool.

1808. Fragment. Length, 0.063 m. Width, 0.056 m.

1809. Edges broken. Length, 0.0955 m. Width, 0.017 m.

PLATE CV.

1810. From behind South Building. Fragment. Length, 0.10 m. Width, 0.03 m.

1811. Fragment. Length, 0.13 m. Width, 0.104 m.

1812. Fragment. Length, 0.114 m. Width, 0.075 m. Bent at edges.

1813. Width, 0.152 m. Height, 0.091 m.

1814. Fragment. Length, 0.0375 m. Width of sides, 0.026 m. and 0.03 m.

1815. Fragment. Length, 0.042 m.

1816. Fragment. Length, 0.065 m. Width, 0.037 m. The resemblance of this as well as of No. **1817** and No. **1818** to primitive idols (cf. 'Εφημ. Ἀρχ. 1898, pl. ii. No. 2) is probably quite accidental.

1817. Fragment. Length, 0.056 m. Width, 0.0125 m.

1818. Fragment. Length, 0.045 m. Width, 0.042 m.

1818 a. Fragment. Length, 0.069 m. Width, 0.055 m.

Discarded: eight fragments.

b. Ornamented.

1. ATTACHED.

1819. From south slope. Length, 0.055 m. Width, 0.052 m. Rivet-holes and dots. Nearly square, with straight edges.

1820. From south slope. Length, 0.142 m. Width, 0.07 m. Grooves round edges, and rivet-holes.

2. UNATTACHED.¹

1821. From behind South Building. Length, 0.049 m. Width, 0.039 m. Small knob.

1822. Length, 0.095 m. Width, 0.065 m. Small knob in one corner.

1822 a. Length, 0.034 m. Width, 0.026 m. Engraved with half-circles.

1822 b. From south slope. Length, 0.035 m. Width, 0.035 m. Fine cross hatchings.

1822 c. Length, 0.05 m. Width, 0.0235 m. Three punched holes and zigzag.

c. Plated with gold.

1823. From south slope. Condition poor. Length, 0.089 m. Width, 0.075 m.¹

d. Inscribed.

PLATES CVI., CVII.

1824. Fragment. From West Building. Height, 0.0266 m. Width (top), 0.022 m. Thickness too slight for accurate measurement. Two rows of punched letters. Irregular in size. Space between lines, 0.0015 m.-0.003 m., but between lower line and bottom edge, 0.0065 m.-0.008 m.; hence it is possible these are the last two lines of the inscription. See below, No. **1825**, and *Appendix*, p. 332.

PLATES CVI., CVII.

1825. Left edge seems to be original. Possible that upper edge is also. Corroded. Height, 0.0225 m. Width, 0.0175 m. Resembles No. **1824**.

From style of letters (especially the sigma), reading from left to right would be expected, though they can be read from right to left. It would be possible to place this fragment loosely to right of No. **1824**, thus making it lower

right corner of list of proper names ^{sa}]H+IΦ _{som}]ΔOΩ

in which case one must assume the lower edge to recede from the letters so as to be 0.0045 m. from Ω and 0.008 m. from A. The alignment also is awkward. Use of Ω in retrograde period is against such reading, though the general character of the letters, etc., is the same.

PLATES CVI., CVII.

1826.² Edges at top and bottom smooth, and for the most part slightly beveled. Considerable portions gone from ends. Something depends on interpretation of ·T in first line. If it represents a paragraph, one must assume that the inscription was written on several sheets, one above the other, and that one piece is one of these sections. Condition of bronze poor. Corrosion continued after being cleaned. Besides the main piece (*a*)

there are several fragments, i. e. (*b*) at the left of the fourth and fifth lines, (*c*, *d*, *e*) at the right of the sixth line. Letters punched rather deep considering thinness of plate.

Fragment *a*. Height, 0.136 m. Width (top), 0.1485 m. Thickness, 0.0003 m.-0.0005 m.

Line 1. (right to left) ονγαη :: νεδα · τ :: αταμθαυ' Letter on right probably a φ, as tail is shorter (0.0025 m.) than that of the ρ's (0.0038 m.-0.005 m.). At left end of line slight trace of bevel.

Line 2 (left to right). . . . ηεσυνχεοι :: τασαpas :: τας . . .

Line 3 (right to left) μαπεδατ :: σαιεγπα-σας :: σαγ Beyond the γ a trace of an oblique stroke, probably of M. To the left of the μ traces of letter, probably A.

Line 4 (left to right). (. . . κα . . .) ανατον :: ηε αλλο τι καρον :: η The κα are on Fragment *b*. Edge at left of first α of main piece is slightly concave, but preserves no trace of bevel owing to corrosion.

Line 5 (right to left). ολ :: αεΙσσεϋε . ε :: στιονχε . . π . . . To left of the π traces of letter or letters. Of the possible combinations M (στιονχεσπ), ΞΙ (στιονχεξιπε), ΤΙ (στιονχετιπε) or ΨΙ (στιονχεψιπε) seem the most likely. To left of second ε are traces of upper and side stroke of ρ; it cannot be Θ owing to ε preceding.³ Last straight stroke on left is of a T, Y, or ρ, more probably the last. To left of this on Fragment *b* is part of ο, the remainder of the outline being on left edge of the main fragment. Fragments *a* and *b* join at this lower edge of the ο. At the left, right bevel of an upright hasta.

Line 6 (left to right). ος :: προ ρο ος :: εξπρ Between the first two ρ's, probable traces of a π; and between the following two ο's no certain traces of a letter. Fragments *c*, *d*, *e* join the right end of line. Letters are uncertain. Word may be εξπρ|NΔ| or εξπρ|IΔ|, according to which end of Fragment *c* is considered to come at top. Fragment *e* is a small bit giving the upper end of right hasta of the *a*.

Line 7 (right to left). . . . σιωη :: σιτωγ ου-μαδεμ Between the ο and γ no certain traces of letter. At the left end of line, bevel of left hasta is continued only about halfway down, but as the bevel is perpendicular, and the line of

¹ In Museum at Eleusis is a piece of bronze plated with gold, on which is engraved a horse of geometric style.

² Found near terrace wall west of Second Temple about four feet below the surface, April, 1895. Rogers, *Am.*

Jour. of Arch. 1901, pp. 159, 162. For commentary see *Appendix*, p. 332.

³ But see *Appendix*

cleavage is continuous, the letter is probably *san*.

Line 8 (left to right). ς $\alpha\rho\gamma\epsilon\iota\alpha\varsigma$:: $\kappa\alpha\iota$ $\eta\omicron\upsilon\tau\omicron\iota\epsilon$. At right of line no certain traces of letter.

Line 9 (right to left). $\mu\omicron\delta\omicron\pi\alpha$:: $\varsigma\epsilon\lambda\upsilon\eta\iota\sigma\tau$:: \omicron Edge at left end of line beveled.

Line 10 (left to right). $\gamma\alpha\varsigma$:: $\alpha\rho\gamma\epsilon\iota\alpha\varsigma$ $\gamma\alpha$:: $\kappa\alpha\tau\alpha\kappa$ (α). Traces of last α .

Line 11 (right to left). . . . $\eta\varsigma\alpha\tau\iota\omicron\pi$:: $\omicron\tau\omicron\varsigma\epsilon\iota\omicron$ - $\epsilon\upsilon\omicron\gamma$

PLATES CVI., CVII.

1827. No original edges. Height, 0.041 m. Width, 0.004 m. Letters show through on back.

H. CUT ORNAMENTS.

PLATE CV.

1828. Broken at larger end and perhaps at smaller. Length, 0.051 m. Width (in centre), 0.0295 m. Trace of hole in edge of broader end.

1829. Length, 0.046 m. Width, 0.0453 m. Small hole in centre.

1830. From south slope, 1894. Six-pointed star with loop between points. In alternate points rivets which formerly held bronze plate. Diameter, 0.048 m.

1831. Three strips of bronze; one attached at right angles to ends of others. Length of cross-bar, 0.084 m. Length of other strips, 0.10 m. and 0.086 m. (broken). Cross-bar plain, other bits have dots on edges. Small hole in centre of cross-bar.

1832. Fragment, doubtful whether of this class. Two small bits fastened together. Length, 0.03 m. Width of longer strip, 0.01 m.

PLATE CVIII.

1832 a. Fragment. Remains of nail and punched holes and dots.

I. FIGURES.

a. Cut.¹

1833. From behind South Building. Length, 0.065 m. This object is perhaps a claw torn off a piece of drapery.²

1834. Condition poor. Length, 0.05 m. Along bit of original edge, row of dots. Head and neck of a bird.

1835. Bit of original edge on two sides. Length, 0.038 m. Probably bit of bird's wing or of snake. With this and No. **1836**, cf. *Olympia*, Nos. 720, 721.

1836. Fragment. Length, 0.0485 m. Orna-

¹ For cut figures from Acropolis, see Bather, *J. H. S. XIII*, p. 241.

mented with straight lines and scale pattern. Perhaps bit of bird.

1837. From behind South Building. Two fragments that fit together. Combined length, 0.094 m. Decoration of punched double circles, rectangles, and drops. Probably represents a dolphin.

b. Repoussé.

1838. From south slope. Three fragments of a left eyebrow, eyeball, lower lid, and low horn (height, 0.007 m.), which was between the eyes. Length, 0.036 m. Possibly from head of griffin. (Cf. *Olympia*, Nos. 714, 715, 715 a, and 691.)

J. UNCERTAIN OBJECTS.

1839. Shorter straight edge broken. Length, 0.028 m. Width, 0.042 m. Rivet at one corner fastening small piece to larger. Decorated with punched dots.

1840. Fragment. Length, 0.049 m. Width, 0.034 m.

1841. One edge broken. Length, 0.027 m. Width, 0.021 m. Rows of dots and two small holes in centre.

1842. Length, 0.064 m. Width, 0.048 m. Seems complete.

1843. From behind South Building. Condition poor. Two plates with toothed edges fastened together by rivets along edges. Lower plate, 0.1025 m. \times 0.064 m. Upper plate, 0.106 m. \times 0.063 m.

1844. Convex piece. Diameter, 0.028 m. With three engraved lines about edge. In centre, small knob of iron pierced by hole.

1845. Edge broken. Length, 0.094 m. Folded over with foot attached to fold.

1846. Ends broken. Length, 0.097 m. Two engraved lines on upright surface.

Discarded: fifty-nine small fragments of sheet bronze, of which one from West Building and one from behind South Building.

8. LEAVES.

1847. Ends broken. Length, 0.0715 m. Width, 0.044 m. Axis of leaf concave-convex. Decorated on both sides with lines and zigzag. Perhaps was cast and then hammered.

1848. Complete, but bent. Length, 0.113 m. Decorated on both sides with lines and zigzag.

² Professor Norton considers it to be the tail of a cock.

9. LEATHER GEAR.

1849. From behind South Building. Three links each made by twisting bronze wire. Total length, 0.373 m. Largest link, length, 0.145 m. Wire of first link round except at one end. In second link wire less regular, about half being

rectangular, and having near centre two swellings, and toward one end engraved diagonal lines. Third link of two strands, one being rectangular. Color indicates much copper. Made by hammering probably. Object is imitation of bit of leather gear, probably of harness. (Cf. somewhat similar piece, *Olympia*, pl. v. No. 37.)

V. VESSELS

1. VASES AND CAULDRONS.

A. WITHOUT SHOULDER.

a. Plates.

1. NO DEPRESSION. ONE OR TWO HANDLES.

a. One handle.

1850. From above Upper Temple toward tents. Handle gone. Diameter, 0.059 m. Thickness, 0.0005 m. Edge with two rows of small dots close together.

β. Two handles.

1851. From south slope. Handles broken. Returning ends (ears) preserved. Diameter, 0.0595 m. In centre, boss surrounded by circle of small dots. Outside these, star pattern punched likewise from bottom. Around outer edge, two rows of dots, of which inner concave. Two rows of dots also around handles, of which the inner is concave. At left of upper handle, part of row of concave dots between inner circle and star.

2. DEPRESSED. HANDLES SMALL. RIM WIDE.

SIMILAR TO PRECEDING FORM (with this Form in general cf. *Olympia*, No. 884 b. The type seems to be rare at Olympia. Cf. also small bronze patera from Tiryns, *Tiryns*, p. 170).

a. Unornamented except on rim near handle or on handle. Dot in centre.

Group i. Convex dots on either side of handle arranged horizontally.

1852. From south slope. Handles gone. Rim injured. Diameter, 0.118 m. Width of rim, 0.01 m. Near one handle, four convex dots in two groups.

Discarded: one from south slope.

Group ii. Three convex dots in triangle on either side of handle.

1853. Handles gone. Rim injured. Diameter, 0.0567 m. Width of rim, 0.007 m. Handles had pointed ears. In centre of plate, convex dot.

PLATE CIX.

1854. Condition poor. Part of one handle

left. Diameter, 0.06 m. Width of rim, 0.0075 m. Ears of handles roughly pointed. Dots on rim as in No. **1853**. Single row of dots on handle. Dot in centre of plate.

Discarded: one fragment similar to No. **1854**.

β. One row of dots round outer edge of bottom struck from top.

Group i. Dots at handle same as in a,

Group ii. Convex dot in centre.

1855. Condition poor. Handles and rim mainly destroyed. Diameter, 0.0445 m.

1856. Fragment. Diameter, 0.046 m. Dots as in No. **1855**.

Discards: two fragments with handles.

Group ii. One or more rows of convex dots on outer edge of rim.

1857. From back of South Building. Fragment of rim and handle. Length, 0.039 m. Opposite base of handle, inner row of dots.

1858. From back of South Building. Condition poor, about half gone. Diameter, 0.098 m.

1859. Fragment of rim and handle. Diameter, circ. 0.085 m. Row of dots on handle and ear, and five dots opposite handle and ear in groups of three and two.

γ. Around outer edge of bottom, ring of short straight lines running toward centre, struck from top.

Group i. Around outer edge of rim and on handle, single row of convex dots.

1860. From south slope. One handle gone. Diameter, 0.088 m. Width of rim, 0.007 m. In centre, rather large dot. Lines around edge approximately parallel.

Discards: small fragment with lines arranged in groups of three. The groups about 0.0035 m. apart.

Group ii. Similar to Group i., but with double row of convex dots about handle and rim.

1861. Condition poor. Diameter, 0.052 m. Width of rim, 0.0085 m. Dots rather oblong and so close as to have effect of row of lines.

Direction of lines on bottom irregular. In centre, large dot.

Group iii. Similar to Group i., but with triangle of three dots opposite each end of handle and inside dot-ring of rim. Double ring of dots around rim.

1862. From south slope. Handles broken. Diameter, 0.0725 m. Width of rim, 0.0085 m. Across ends of handle, double row. Dots of triangle are larger and probably struck after the other rows of dots, as is shown by the smaller dots appearing on the surface of the larger ones. In centre, slight depression, perhaps accidental.

1863. Condition poor. Diameter, 0.068 m. Triangles of dots same as in No. 1862. In centre, large dot. Lines about bottom irregular.

δ. *Similar to γ, but with ring of dots outside the lines on bottom. These dots struck from top.*

1864. Condition poor. Diameter, 0.07 m. Width of rim, 0.008 m. Lines on bottom generally point toward centre.

ε. *Similar to Class γ, but with lines crescent-shaped and parallel.*

1865. Fragment. Condition poor. Row of small convex dots near outer edge of rim.

ζ. *Around outer edge of bottom, row of dots, inside of which zigzag of straight lines, both dots and zigzag being struck from upper side.*

Group i. Row of convex dots about handle and on ears. Triangle of three convex dots opposite ends of handles.

1866. Illustration shows under side. Condition poor. Diameter, 0.055 m. Width of rim, 0.007 m. Dots on handle, ears, and rim slightly larger than those round edge of base. Still larger convex dot in centre.

Discarded: one.

Group ii. Similar to Group i., but with row of convex dots around outer edge of rim. Dots sometimes absent from ears.

1867. From above Upper Temple toward tents. One handle mostly gone. Diameter, 0.055 m. Width of rim, 0.0055 m. Dots absent from one ear. Convex dot in centre.

1868. Illustration shows under side. From

¹ This decoration is similar to that found on fragment of pottery from Melos (early Mycenaean), but there be-

sonth slope. One handle gone. Diameter, 0.093 m. Width of rim, 0.01 m. Dots only on one ear. In centre, low boss, in centre of which dot. This dot struck from upper side.

Group iii. Similar to Group i., but rim has on inner edge ring of crescents (open side outward), struck from under side.

1869. From south slope. One handle, one ear of other handle, and parts of rim and bottom gone. Diameter, 0.04 m. Width of rim, 0.005 m. In centre of bottom, convex dot.

η. *Around outer edge of bottom, ring of truncated ellipses opening outward. These ellipses struck from upper side.*

Dots on handle, ears, and around rim.

On rim opposite handles and inside ring of dots, three dots in triangle as before (Class ζ, Group i.). All these dots struck from under side.

1870. From south slope. Rim and bottom damaged. Diameter, 0.074 m. Width of rim, 0.0085 m. In centre of bottom, small convex dot. Punch employed for striking ellipses had broad edge (width, 0.0009 m.) with sharp corners.

θ. *Around outer edge of bottom, ring of dots, inside of which, ring of semicircles or truncated ellipses opening outward. These dots and semicircles (or ellipses) struck from upper side.*

Group i. Semicircles. On handle and portion of rim opposite, dots together with triangles of three dots. All these dots struck from under side.

1871. One handle gone. Rim damaged. Diameter, 0.046 m. Width of rim, 0.0045 m. In handle, hole punched from above. In bottom, convex dot.

1872. One handle gone. Rim and bottom damaged. Diameter, 0.063 m. Width of rim, 0.0085 m. In centre, hole (diameter, 0.003 m.) punched from beneath. Dots in triangles larger than those on handle and bottom.

Group ii. Truncated ellipses.¹

(a'.) Dots on handle and ears. Triangle of dots on rim opposite ends of handles. All these dots struck from under side.

1873. Less than half preserved. Width of rim, 0.0065 m.

longing to a rosette. Edgar, in *Excavations at Phylakopi*, p. 122, pl. xx. No. 12.

(*b'*.) Dots on handles and part of rim that is opposite. Besides, triangles of three dots opposite ends of handles. All these dots struck from beneath.

1874. One handle, one ear, and part of bottom gone. Diameter, 0.057 m. Width of rim, 0.004 m. In centre of bottom, dot.

(*c'*.) Row of small dots on handles and outer edge of rim. Inside this row, opposite ends of handles, triangles of three dots. Dots on ears. All these dots struck from under side.

1875. One ear and part of one handle gone. Diameter of disk, 0.112 m. Extreme diameter, 0.142 m. Width of rim, 0.0105 m. In centre of bottom, row of six oblong dots. At side of interspace between the two central dots, two small dots close together. All these dots struck from beneath. Punch did not carry outer line of ellipses as far toward open ends as it did the inner line, thus making figures look from upper side as though struck with two separate instruments.

3. DEPRESSED. NARROW RIM. NO HANDLE.

1876. PLATE shows under side. From south slope. Condition poor. Diameter, 0.067 m. Width of rim, 0.003 m. On rim, ring of small dots struck from under side. Also hole in rim (diameter, 0.002 m.), punched from beneath.

4. DEPRESSED. WIDE RIM. NO HANDLE.

INSCRIBED.

PLATE CX.

1877. (Photograph and copy of inscription.) Rim abraded. Much corroded and oxidized. Diameter, 0.109 m. Width of rim, 0.01 m. Thickness of bottom, perhaps about 0.001 m. Rim thinner. On under side of rim, stroke made with hollow punch (diameter, 0.002 m.), which shows on upper side as dot (lower right side of photograph). In opposite side of rim, hole (now broken out) struck with hollow punch from under side (diameter, 0.0024 m.).

For inscription, see *Appendix*.

5. DEPRESSED. NO RIM. NO HANDLES. INSCRIBED.

PLATES CX. (bottom and copy of inscription) and CXI. (top).

1878. From south slope. Edge considerably damaged. Corroded and much oxidized. Diameter of top, 0.0685 m.; of bottom, 0.06 m. Height, 0.007 m. Thickness, 0.0018 m. On outside, near bottom, narrow band with grooves

at either side. Also groove 0.001 m. from top for part of circumference. Space between upper and first lower grooves occupied by inscription. (See *Appendix*.) On bottom of plate near centre, mark or scratch (γ). Bottom slightly convex on upper side and concave beneath. Forms sharply defined angle with sides.

b. Platters (Fragments of outer edge only).

1. FLAT, I. E., EDGE NOT TURNED UP.

a. Plain.

PLATE CIX.

1879. Condition poor. Length, 0.11 m. Width, 0.08 m. Thickness, 0.0006 m. and less. Near outer edge, broad low roll. Similar but wider rise near inner edge. Inside this, possible trace of end of petal of rosette.

β . Ornamented with punched dots.

PLATE CXI.

1880. Convex edge seems to be original. Condition poor. Length, 0.135 m. Width, 0.042 m. Fragment does not seem to have had other dots than those which appear in photograph. Original design not clear. Color reddish. Flexible.

Not certain that following number belongs here.

PLATE CIX. (shows reverse).

1881. From back of South Building. No original edge preserved. Length, 0.026 m. Width, 0.02 m. Ornamented with large and small dots struck from upper side.

γ . Inscribed with letters of dots struck from above.

PLATE CXI.

1882. Two fragments, *a* and *b*. Fragment *a* from back of South Building. Outer edge preserved. Condition poor. Length of *a*, 0.017 m.; width, 0.0315 m. Length of *b*, 0.067 m.; width, 0.031 m. Thickness of both, 0.0002 m. Flat. Photographed and drawn from concave side of dots. On same side, series of light strokes of hollow punch (see drawing), perhaps anterior to dots. They seem to be merely ornamental, but the design is not clear. For reading of dots, see *Appendix*.

PLATE CXI.

1883. Fragments *a*, *b*, *c*. Fragment *b* omitted from drawings because reversed. Junction of *b* and *c* in photograph not certain. Fragment *b* broken from *a* after cleaning. Outer edge only preserved. Condition poor. Length of *a*, 0.081 m.; width, 0.047 m. Length of *b*, 0.018 m.; width, 0.005 m. Length of *c*, 0.138 m.; width, 0.041 m. Flat except for low convex ridge at

inner edge of *a*, which formed boundary between centre and border of platter.

Inscription in dotted letters punched from above, the base of the letters being toward the outside of the plate. Besides the dots of the inscription, which are heavily punched, there are fainter dots and circles (i. e. light strokes of hollow punch) with which they seem to have no relation. For these dots, see drawing on PLATE; and for inscription, see *Appendix*. Flexible. Color reddish.

2. OUTER EDGE TURNED UP, FORMING A SIDE OR RIM.

a. Ornamented with dots punched from above.

PLATE CXII.

1884. Outer edge preserved. Condition poor. Length, 0.171 m. Width, 0.0595 m. Original diameter, about 0.435 m. Height of rim, 0.006 m. Two connected semicircles of dots. At left, three large and six small dots in irregular oblique line. Color reddish. Flexible.

β. Inscribed with letters of dots punched from above.

PLATE CXI.

1885. From back of South Building. Fragment of edge with a piece of centre. Condition poor. Length, 0.11 m. Width, 0.107 m. Height of rim, 0.005 m. In edge, letter T. Height, 0.215 m. Between edge and centre, low roll, beginning at top of letter. Width, 0.012 m. Color reddish. Flexible.

PLATE CXII.

1886. Fragment of edge broken off at beginning of roll which separated edge from centre. Condition poor. Length, 0.135 m. Width, 0.047 m. Height of rim, 0.0025 m. Original diameter, about 0.45 m. Inscription in rather large dots, many of which are roughly triangular. See *Appendix*. Color reddish. Flexible.

Addenda. It is uncertain to which form the following belong.

PLATE CXI.

1887. Broken on all sides. Condition poor. Length, 0.047 m. Width, 0.0353 m. At one end, letter of heart-shaped dots punched from above. See *Appendix*.

PLATE CXI.

1888. Two fragments, *a* and *b*, which seem to belong together. Condition poor. — Fragment *a*. Broken on all sides. Length, 0.017 m. Width, 0.032 m. Five large dots forming arc of a circle perhaps from an O or a Δ. — Frag-

ment *b*. Broken on all sides. Size, 0.0365 m. × 0.018 m. Two lines, one of two, the other of three dots, converging toward each other. Perhaps a K or an A. The order of these fragments is arbitrary.

PLATE CXII.

1889. Two fragments (*a* and *b*) which from style of letters and texture of bronze seem to come from same object. Arrangement arbitrary, being based on possibility that right end of *a* joins lower left corner of *b*, and that they thus form the projecting corner of a piece of coating. In this case the bottoms of the letters were toward the top of the object. Lower edge of Fragment *a* seems to be original, that of *b* may be. Condition poor. Length of Fragment *a*, 0.06 m.; width, 0.041 m. Length of Fragment *b*, 0.079 m.; width, 0.038 m. — Inscription in dots punched from above. See *Appendix*. On same side circles or rings struck with hollow punch independent of inscriptions, and perhaps earlier.

c. Saucers.

FORM 1. PERFORATED CENTRE. AKIN TO SIMILAR FORM OF DISK. PLAIN.

1890. Two cracks in edge due to flattening. Diameter, 0.028 m. Near centre, hole struck with solid punch from under side. Diameter, 0.002 m. Bottom rises very slightly, perhaps accidentally.

1891. Diameter, 0.0325 m. Near centre, hole (diameter, 0.0015 m.) probably struck from under side with hollow punch. About it bottom rises very slightly in irregular circle about 0.012 m. in diameter, perhaps owing to blow from punch.

FORM 2. WITHOUT PERFORATION OR BOSS. PLAIN.

Cf. shallow bronze saucer from Mycenae, outside shaft-graves, Mus. No. 2343, and Schliemann, *Tiryns*, pl. xxvii. b (terra-cotta). For use cf. sarcophagus of Crepereia Tryphaena, found, 1889, in Rome (Prati di Castello), now in Mus. dei Conservatori, containing small saucer of similar form. *Bullett. Commiss. Com.*, 1889, pp. 175, 496.

Group i. Outline, continuous flat curve. Sides, scarcely distinguishable in smaller specimens, gradually increase in prominence. No rim.

1892. About one fourth gone. Diameter, 0.034 m. Height, 0.007 m. Holes all seem due to corrosion.

1893. (Shows bottom.) Condition poor. Di-

ameter, 0.048 m. Height, about 0.011 m. Near top, hole (diameter, 0.0022 m.) cut with hollow punch.

1894. (Shows top.) Condition poor. Diameter, 0.049 m. Height, 0.01 m. Near top, hole (diameter, 0.0017 m.) cut with hollow punch.

1895. Condition poor. Diameter, 0.075 m. Height, 0.013 m.

1896. Condition poor. Diameter, 0.08 m. Height, circ. 0.013 m. Holes all due to corrosion.

1897. Fragment, section through centre. Diameter, 0.084 m. Height, 0.0135 m.

1898. (Shows top.) Half gone. Diameter, 0.105 m. Height, 0.02 m.

Discarded: three.

Not certain whether the following had hole in bottom, as centre is not preserved.

1899. (Shows top.) Diameter, 0.027 m. Height, 0.005 m. Near top, hole (diameter, 0.0025 m.) struck from inside with hollow punch.

Group ii. Similar to Group i., but with sides more clearly marked and rims somewhat thicker.

1900. Top. From West Building. Half gone. Diameter, 0.084 m. Height, 0.02 m.

1901. (Shows top.) From back of South Building. Less than half preserved. Diameter, 0.0975 m. Height, 0.023 m. Bottom very thin, but sides thicken to 0.0018 m. On outside near top, three fine encircling lines close together. Between lowest and middle lines a fourth line runs part way round. [On PLATE wrongly numbered **1981.**]

Group iii. Rounded eup-like bottom.

Rim but slightly emphasized.

1902. Nearly half gone. Diameter, 0.0235 m. Height, 0.008 m.

1903. Shows top. From back of South Building. About one third gone. Diameter, 0.0386 m. Height, 0.014 m. Near centre, hole punched roughly from above with solid rectangular punch. Size, 0.003 m. \times 0.005 m.

Group iv. Nearly flat bottom, from which sides are plainly differentiated, but by rounded angle. Rims not emphasized.

1904. Shows top. From south slope. About one third gone. Diameter, 0.079 m. Height, 0.019 m.

Group v. Similar, but with rim more emphasized.

1905. Shows top. From back of South

Building. Condition poor. Diameter, 0.0595 m. \times 0.054 m. Height, 0.01 m.

Group vi. Similar to Group v., but heavier, without emphasis of rim, and with a more rounded curve between side and bottom.

PLATE CXIII.

1906. Shows top. From back of South Building. Nearly half gone. Diameter, 0.053 m. Height, 0.0075 m.

Group vii. Similar in shape to Group i., but with side bent back at top to form rim.

1907. (Shows top.) Fragment, broken in two parts (*a* and *b*). Height, 0.013 m. Roll at top about 0.0015 m. in width.

FORM 3. WITH BOSS. SHAPE SIMILAR TO FORM 2, Group i.

Class a. Plain.

Group i. Small round hole near edge.

1908. (Shows top.) Diameter, 0.023 m. \times 0.0257 m. Height, 0.0038 m. Near edge, hole (diameter, 0.0017 m.) cut with hollow punch. Diameter of boss, 0.006 m.

1909. From south slope. Diameter, 0.0314 m. Height, 0.003 m. Near top, hole (diameter, 0.002 m. \times 0.0028 m.) struck with hollow punch from inside. Diameter of boss, 0.007 m.

1910. Diameter, 0.032 m. Height, 0.002 m. Near edge of top, hole (diameter, 0.002 m.) as in No. 1909. Diameter of boss, 0.0075 m.

1911. From back of South Building. Condition poor. Diameter, 0.0355 m. Near edge, hole (diameter, 0.0015 m.). Diameter of boss, 0.008 m.

1912. From south slope. Condition poor. Diameter, 0.039 m. Height, 0.0038 m. Near edge, hole (diameter, 0.0013 m.) as in No. 1909. Diameter of boss, 0.008 m.

1913. Condition poor. Diameter, 0.04 m. Height, 0.0043 m. Near edge, hole (diameter, 0.0018 m.) as in No. 1909. Diameter of boss, 0.0047 m.

1914. (Shows top.) Condition poor. Diameter, 0.041 m. Near edge, hole (diameter, 0.0019 m.) as in No. 1909. Diameter of boss, 0.01 m.

1915. One fifth gone. Diameter, 0.0455 m. Height, 0.0045 m. Near edge, hole (diameter, 0.002 m.) as in No. 1909. Diameter of boss, 0.0065 m.

1916. (Shows top.) Diameter, 0.054 m. Height, 0.0056 m. Near edge, hole (diameter,

0.0017 m.) cut with hollow punch. Diameter of boss, 0.009 m.

1917. Condition poor. Diameter, 0.064 m. Height, 0.0175 m. Near top, hole (diameter, 0.002 m.) as in No. 1909. Diameter of boss, 0.0105 m.

1918. Condition poor. Diameter, 0.65 m. \times 0.07 m. Near edge, hole (diameter, 0.0018 m.) as in No. 1909. Diameter of boss, 0.013 m.

1919. Condition poor. Diameter, 0.085 m. Height, 0.015 m. Near edge, hole (diameter, 0.002 m.) uncertain whether cut or corroded. Diameter of boss, 0.015 m.

1920. Diameter, 0.09 m. Near edge, hole (diameter, 0.0015 m.) as in No. 1909. Diameter of boss, 0.014 m.

1921. (Top.) Half gone. Diameter, 0.123 m. Near edge, hole (diameter, 0.002 m.) as in No. 1909. Diameter of boss, 0.037 m.

Discarded: three.

Group ii. No hole.

1922. From West Building. Diameter, 0.0375 m. \times 0.043 m. Diameter of boss, 0.0045 m.

1923. (Shows top.) From south slope. Condition poor. Diameter, 0.073 m. Diameter of boss, 0.012 m.

The following number may be of either i. or ii.

1924. Half gone. Diameter, 0.010+ m. Diameter of boss, 0.026 m.

Discarded: four, of which one from south slope.

Class β . Ornamented with dots, or lines, or lines and dots in various patterns.

All the completed rims have small round perforation. Incomplete specimens without perforation are arranged with them. In the same way are included a few fragments which do not contain portions of centre, inasmuch as all the complete examples with similar ornamentation have boss.

Group i. Row of dots about boss.

1924 a. (Shows top.) About one fourth gone. Much oxidized. Diameter, 0.0285 m. Height, 0.003 m. Diameter of boss, 0.005 m. Near edge, dot.

Group ii. Lines from boss to edge.

The examples under this Group are nearly flat and resemble disks.

(a'.) Lines struck from upper side.

1925. (Shows top.) Diameter, 0.035 m. Height, 0.0034 m. Diameter of boss, 0.0085 m. Near edge, nearly rectangular hole (0.0015 m. square) struck from inside.

(b'.) Lines struck from under side.

1926. (Shows bottom.) About one third gone. Diameter, 0.056 m. Diameter of boss, 0.0165 m.

Group iii. Similar to Group ii., (b'), but with row of small dots about edge struck from inside, and similar row about outer edge of top of boss struck from beneath.

1927. (Shows bottom.) Fragment. Radius about 0.03 m. Diameter of boss, 0.019 m.

Group iv. Bottom has straight lines radiating from, but not entering boss, struck from inside.

1928. (Shows top.) About one fourth gone. Diameter, 0.026 m. Height, 0.0021 m. Diameter of boss, 0.0073 m.

1929. (Shows top.) Diameter, 0.029 m. Height, 0.0035 m. Diameter of boss, 0.0065 m. Near edge, hole (diameter 0.0017 m.) struck from inside with hollow punch.

1930. Diameter, 0.0345 m. Height, 0.0048 m. Diameter of boss, 0.008 m. Near edge, hole (diameter, 0.0013) struck from inside.

1931. (Shows top.) Diameter, 0.035 m. Height, 0.0045 m. Diameter of boss, 0.0073 m. Near edge, hole (diameter, 0.0013) as in No. 1929.

Group v. Similar to Group iv., but with one or more rings of dots punched from above encircling the rays.

(a'.) One ring at end of rays.

1932. Nearly half gone. Diameter, 0.0283 m. Height, 0.003 m. Diameter of boss, 0.007 m. Near edge, hole (diameter, 0.0018 m.) as in No. 1929.

1933. (Shows top.) From south slope. Condition poor. Diameter, 0.039 m. Height, 0.0035 m. Diameter of boss, 0.0075 m. Near edge, hole (diameter, 0.002 m.) as in No. 1929.

(b'.) Two rings at end of rays.

1934. Condition poor. Diameter, 0.045 m. \times 0.05 m. Height, 0.0073 m. Diameter of boss, 0.0075 m.

1935. (Shows bottom.) From south slope. Condition poor. Diameter, 0.051 m. Diameter of boss, 0.0115 m. Near edge, hole (diameter, 0.0018 m.) as in No. 1929.

(c'.) Similar to (b'), but with a second double ring just inside edge.

1936. (Shows top.) Diameter, 0.081 m. Diameter of boss, 0.0205 m. Near edge, hole (diameter, 0.0014 m.) as in No. 1929.

Group vi. From boss extend fine parallel curved lines close together, struck from above. Beyond lines but close to them, ring of dots struck from beneath. Outside this ring and close to it, straight rays struck from above. Beyond rays, ring of small dots struck from above.

1937. (Shows top.) Nearly half gone. Diameter, 0.0645 m. Height, 0.0085 m. Diameter of boss, 0.0135 m. Near edge, hole (diameter, 0.0023 m.) struck from inside.

Group vii. Near boss, one or two rings of small dots, followed by star pattern consisting of zigzag of straight lines.

(*a'*.) Ornaments struck from above.

1938. (Shows top.) Diameter, 0.024 m. Height, 0.003 m. Diameter of boss, 0.007 m. Near edge, hole (diameter, 0.0019 m.) as in No.

1929. Single ring of dots.

1939. (Shows bottom.) Edge damaged. Diameter, 0.0523 m. Height, 0.006 m. Diameter of boss, 0.009 m. Outside first ring of dots, a second of small faint dots.

(*b'*.) Ornaments struck from beneath.

1940. Fragment. Diameter of boss, 0.125 m. About boss, ring of dots so placed that usually the inner angle of zigzag starts from a dot.

Group viii. Rays about boss, followed by one or two rings of dots. Beyond dots, zigzag or star pattern. Dots and zigzag may be repeated. All dots and lines struck from upper side.

(*a'*.) Between rays and zigzag a single row of dots.

1941. (Shows top.) Condition poor. Diameter, 0.069 m. Height, 0.0065 m. Diameter of boss, 0.0135 m. Near edge, hole (diameter, 0.0013 m.) as in No. **1929.**

Discarded : one.

(*b'*.) Between rays and zigzag, double row of dots.

1942. From south slope. Condition poor. Diameter of boss, 0.012 m. Near edge, hole (diameter, 0.0015 m.) as in No. **1929.**

1943. Diameter, 0.084 m. Diameter of boss, 0.022 m.

1944. (Shows top.) Condition poor. Diameter, 0.099 m. \times 0.075 m.

1945. (Shows top.) From south slope. Diameter, 0.091 m. \times 0.106 m. Diameter of boss, 0.019 m. Near edge, hole (diameter, 0.0025 m.) as in **1929.**

(*c'*.) Similar to (*b'*), but with an added double row of dots and a zigzag.

1946. (Shows bottom.) From West Building. Fragment. Height, 0.014 m. Diameter of boss, 0.0245 m.

Group ix. Next to boss, circle of short rays. Remainder of space between these and edge occupied by two rings of large dots inclosing zigzag. All dots and lines struck from above.

1947. From back of South Building. Condition poor. Diameter, 0.064 m. Height, 0.006 m. Diameter of boss, 0.007 m. Though somewhat flattened, probably better placed here than among the disks.

Group x. Boss followed by rosette. Ornaments struck from above.

(*a'*.) No dots.

1948. (Shows top.) From back of South Building. Condition poor. Diameter, 0.033 m. Height, 0.0034 m. Diameter of boss, 0.0057 m. Near edge, hole (diameter, 0.0018 m.) as in No. **1729.**

1949. About one fifth gone. Diameter, 0.039 m. Height, 0.0027 m. Near edge, hole (diameter, 0.002 m.) cut with hollow punch.

(*b'*.) Ends of rays connected by semi-circles of fine dots struck from above, forming rosette.

1950. (Shows top.) From back of South Building. Condition poor. Diameter, 0.075 m. Height, 0.0077 m. Diameter of boss, 0.017 m. Near edge, hole (diameter, 0.0015 m.) as in No. **1929.**

Group xi. Similar to Group x., but with large dots struck from above, one in end of each leaf of rosette.

(*a'*.) Corresponds to Group x. (*b'*).

PLATE CXIV.

1951. (Shows top.) About one third gone. Diameter, 0.0433 m. Height, 0.0051 m. Diameter of boss, 0.0075 m. Near edge, hole (diameter, 0.001 m.) struck from upper side.

(*b'*.) Corresponds to Group x. (*a'*), with addition of ring of connected crescents opening outward, between rosette and edge.

1952. Small segment extending from edge not quite to boss. Diameter of dots, 0.0055 m. and 0.006 m.

Group xii. Combinations of rosette with other forms. All ornament struck from above.

(*a'*.) Rays, double ring of dots, and leaf pattern.

1953. (Shows bottom.) From back of South Building. Condition poor. Diameter, 0.08 m. Diameter of boss, 0.0175 m. Many rays slightly curved. Near edge, hole (diameter, 0.001 m.) as in No. **1929**. This piece has been so flattened that it could be taken for a disk.

(*b'*.) Rays, single ring of dots, and leaf pattern of double lines.

1954. (Shows top.) Condition poor. Diameter, 0.043 m. Diameter of boss, 0.0084 m. Leaves not connected with each other, but stamped or engraved separately. Near edge, hole (diameter, 0.0015 m.) as in No. **1929**.

(*c'*.) Outer part has zigzag, single row of dots, and leaf pattern with dot in end of leaves, all reckoned from inside toward edge. Ends of leaves double, i. e. plain and dotted lines. Uncertain whether there were rays.

1955. (Shows top.) Fragments *a* and *b*. Fragment *a*, length, 0.088 m.; width, 0.027 m.; height, 0.0063 m. Fragment *b*, length, 0.04 m.; width, 0.021 m. Dots and leaf pattern only preserved. Both fragments probably from same object.

Group xiii. Rays, dots, and semicircles. Semicircles open inward. Ornaments struck from above.

1956. (Shows top.) About one fourth gone. Diameter, 0.103 m. Height, 0.014 m. Diameter of boss, 0.024 m. Near edge, hole (diameter, 0.004 m.) as in No. **1929**.

Group xiv. Similar to Group xiii., but with row of dots and a zigzag added outside. Dots on boss. All decorations from above.

1957. (Shows top.) Condition poor. Diameter, 0.067 m. Height, 0.0107 m. Diameter of boss, 0.0166 m. Near edge, hole (diameter, 0.002 m.) as in No. **1929**.

Group xv. Triple ring of zigzag forming diamond pattern followed by leaf pattern. Decoration struck from above.

1958. (Shows top.) About half gone, and much flattened. Diameter, 0.091 m. Near edge, hole (diameter, 0.001 m.) as in No. **1929**.

Group xvi. Leaf pattern, straight lines and dots in successive zones reckoned from boss. Followed by row of petals with open end outward. Between

lower rounded ends of petals a dot. All decoration struck or engraved from under side.

1959. Segment from boss to edge. Leaf pattern has closed end outward. Double lines used in common on sides. Probably ends were double. Related to following FORM 4.

Addendum to FORM 3.

1960. Small fragment containing portion of side and bottom, but no original edge. Row of curved parallel lines close together, followed by double row of dots.

FORM 4. SIMILAR TO FORM 3, BUT WITH CRIMPED EDGE. ORNAMENTED.

Group i. Rays about boss. Struck from above.

1961. (Shows top.) Condition poor. Diameter, 0.039 m. Height, 0.0085 m. Diameter of boss, 0.008 m. Near edge, hole (diameter, 0.002 m.) as in No. **1929**.

Discarded: one.

Group ii. Similar to Group i., but with one or two rows of dots outside rays. Struck from above.

(*a'*.) One row of dots.

1962. From above Upper Temple toward tents. Nearly half gone. Diameter, 0.037 m. Height, 0.0115 m. Diameter of boss, 0.009 m.

1963. (Shows top.) Fragment. Flattened. Diameter of boss, 0.008 m.

Discarded: two.

(*b'*.) Two rows of dots.

1964. Half gone. Diameter, 0.038 m. Height, 0.0088 m. Diameter of boss, 0.0075 m.

1965. (Shows top.) From back of South Building. Broken in two pieces and defective. Diameter, 0.05 m. Diameter of boss, 0.0085 m. Near edge (of smaller fragment), hole (diameter, 0.0015 m.) as in No. **1929**.

Group iii. Similar to Group ii., but with outer part of bottom divided into segments by straight lines. All lines and dots struck from above.

1966. (Shows top.) From back of South Building. Diameter, 0.034 m. Height, 0.004 m. Diameter of boss, 0.0068 m. Near edge, hole (diameter, 0.001 m.) as in No. **1929**.

Group iv. Similar to Group iii., but with ring of zigzag outside ring of dots and lines from points of zigzag to edge of bottom. All lines and dots struck from above.

1967. Defective and in poor condition. Di-

ameter, 0.086 m. Diameter of boss, 0.023 m. Lines to edge of bottom from alternate points of zigzag only.

1968. (Shows top.) About one fourth gone. Condition poor. Diameter, 0.06 m. Diameter of boss, 0.007 m. Outer angles of zigzag accentuated by dots. Lines to edge of bottom from each angle of zigzag. These lines do not stand in relation to crimps of edge.

Group v. Similar to Group ii. (*a'*), but with second ring of rays, the outer ends of which connect with the angles of a zigzag, thus forming a sort of angular leaf pattern.¹ All ornamentation struck from top.

1969. (Shows bottom.) About one fifth gone. Flattened. Diameter, 0.068 m. Diameter of boss, 0.0135 m. Angles of zigzag independent of crimps, though sometimes coincident with them.

Group vi. About midway between boss and edge of bottom, ring of crescents opening outward, struck from above.

1970. (Shows top.) From back of South Building. Condition poor. Diameter, 0.054 m. Height, 0.0115 m. Diameter of boss, 0.0105 m.

Group vii. After leaf pattern or rosette with rounded petals, ring of adjoining crescents, opening outward. From ends of crescents straight lines to edge of bottom, generally coinciding with inner convexity of crimps. Decoration of centre not preserved, but probably rosette came directly after boss.

1971. Fragment. Height, 0.007 m.

Group viii. Boss followed successively by one ring each of small dots, short lines, and connected crescents opening outward. From joinings of crescents, straight lines extending nearly to edge and corresponding to inner convexity of crimps. The entire surface thus appears to be divided into segments, although only the crimps are plastically indicated. All lines and dots struck from above.

1972. (Shows top.) Condition poor. Diameter, 0.075 m. Height, 0.0195 m. Diameter of boss, 0.013 m. Lines struck before crimping of edge. Near edge, hole (diameter, 0.0025 m.) as in No. 1929.

¹ Effect of lines and zigzag similar to that of upper part of decoration of gold cup from second shaft-grave at

Group ix. Crimping and section lines as in Group viii. Inside lines, small zigzag followed by a plain line and a ring of small dots. Succeeding decoration not preserved.

1973. From back of South Building. Small fragment. One crimp and one line preserved. Crimp made after line.

Discards: Groups i.-vii., two, of which one from back of South Building. Group viii. or ix., one from same place.

Addendum. The following fragment, if complete, would probably be best regarded as of a separate form.

1974. From back of South Building.

Discarded: one, uncertain whether of FORM 3 or 4.

FORM 5. BOSS. MORE ADVANCED. SIDES, BOTTOM, AND RIM DIFFERENTIATED. DECORATION APPLIED FROM OUTSIDE.

1975. (Photograph shows bottom, drawing shows segment of side and bottom as a single surface.) Incomplete. Condition poor. Diameter, 0.132 m. Height, 0.027 m. Decoration. Two rings about boss, then ring of double crescents forming base of long loops, which are the main ornament. Beneath rim, two fields separated by heavy lines. Lower field filled with hatched diamond pattern, the upper with raised dots or beads. Just beneath lower field, a similar line of beads (omitted in drawing). Traces of boundary line beneath. Sides ornamented with system of v's with returning ends, each v having another interlacing with it on each side. Crescents form bottom of loops, but sometimes upper line connects with one side and the lower with the other, sometimes both serve as bottom for both sides, and sometimes lower line seems to be real bottom of loop. At top between angles, heavy arrowheads are inserted, thus making continuous zigzag.

With this and the following number cf. *Olympia*, No. 880.

PLATE CXV.

1976. (Photograph shows bottom; segment as in No. 1975.) Incomplete. Condition poor. Diameter, 0.16 m. Height, 0.0355 m. Diameter of boss, 0.034 m. Decoration like that of No. 1975, but clearer and better preserved. Zigzag at top of loops struck separately and quite freely. Top of zigzag often open (drawing inaccurate). The lower of the two fields near top filled with circles. Slight traces of circles in upper field (omitted in Mycenae (=Schliemann, v), Schliemann, *Mycenae*, p. 292, fig. 453.

drawing). Heavy lines and thin material of side and bottom give plastic effect.

PLATE CXIV.

1977. (Shows top.) From above Upper Temple toward tents. Fragment. Condition poor. Decoration similar to that of Nos. **1975 f**.

Discarded: six fragments, of which one from back of South Building.

Similar to preceding.

1978. About two thirds of rim preserved. Broken into two parts. Diameter, about 0.172 m. Three fields at top. Upper and lower fields have circles, the middle field diamond hatching.

Discards of Type c: thirty-two fragments, of which twelve are from back of South Building, two from south slope, one from West Building, and one from "near wall southeast of house."

Addendum. The following object, which has an edge like a plate, the depth of a saucer, and a convex bottom like a low boss, may be put here.

1979. (Shows top.) From south slope. Fragment. Condition poor. Radius, about 0.034 m. Width of rim, 0.006 m.–0.0075 m. Bottom ornamented with short straight lines extending from outer edge toward centre and struck from under side.

d. Bowls.

FORM 1. TOP LIKE THAT OF SAUCERS.

Class a. Without handles.

Under this class are included all vases, and fragments of rims, which do not have traces of handles on them, the evidence of the complete examples being, in a majority of the cases, against the assumption that there were handles on the missing portions.

Group i. Plain.

PLATE CXV.

1980. Defective. Diameter, 0.105 m. Height, 0.031 m. Rests on slight base ring (diameter, 0.055 m.; height, 0.0016 m.; thickness, 0.001 m.). Bottom slightly convex on inside. No boss. Outer edge of bottom indicated by fine circle on inside. Around outside near top, a single line. Could be regarded as a saucer owing to slight depth.

1981. About two thirds of rim preserved, with a scrap of side and possibly of bottom. Condition poor. Present diameter, 0.018 m.

1982. From south slope. Rim with portion of side put together from seven fragments. Rim lacks 0.025 m. of completeness. Diameter, 0.151 m. \times 0.145 m. Near top, hole (diameter,

0.0025 m.). Two other small holes diagonally beneath, but probably not original.

PLATE CXVI.

1983. Bottom and part of sides gone. Diameter as now bent, 0.215 m. \times 0.09 m.

1984. Circle of rim nearly complete. Broken in two pieces (*a, b*).

The following less complete rims may be put here, although some of them were perhaps saucers.

PLATE CXV.

1985. (Fragments *a, b*.) Two other fragments, *c, d*, which do not fit the others, but from appearance belong to same rim. Length of *a, b*, 0.108 m.; of *c+d*, 0.044 m. On outside of fragment *a* is engraved an Ξ . For copy see *Appendix*.

1986. From back of South Building. Fragments *a, b*, and *c, d*. Chord, 0.159 m.

1987. Fragments *a-d*. Diameter, about 0.13 m.

1988. Fragments *a, b*. Chord, 0.137 m.

Discarded: eighteen fragments of rims, of which four from back of South Building, three from south slope, and one from West Building. Possible that some of them are from saucers.

The following fragment may be included here as most likely coming from a large bowl.

1989. Fragment of rim. Condition poor. Length, 0.045 m. Bold outside bevel. Possible traces of one or two lines just below bevel.

Group ii. Ornamented.

The following numbers (1990–2000) may possibly be from saucers.

1990. (Drawing of left end.) Found below wall at southeast of Second Temple, April 25, 1893. Rim of which less than half is preserved. Condition poor. Chord, 0.153 m. Cf. No. **1975**. Top too heavily shaded in drawing.

1991. Fragment of rim. Chord, 0.103 m.

PLATE CXVI.

1992. (Drawing of portion.) From back of South Building. Fragments *a* and *b*. Fragment *a*, length, 0.094 m.; fragment *b*, length, 0.06 m.

1993. Fragment of rim. Condition poor. Length, 0.067 m. Top heavy, with bevel on inside and two rolls on outside.

1994. (Drawing of portion.) Rim of which less than half is preserved. Chord, 0.183 m. On lip, at right end, inscription with bottoms of letters toward inside. See *Appendix*, p. 337.

1995. From south slope. Fragment of rim. Length, 0.043 m. Circles dotted.

1996. From south slope. Fragment of rim. Length, 0.057 m. Decoration uncertain owing to bad preservation. Perhaps only one field and that filled with eircles or hatching or both.

1997. Fragments *a-f*. Fragment *f* from south slope. Original diameter, about 0.142 m. Traces of ornament on sides like that of preceding numbers, but no certain traces of bands at top.

1998. Fragment of rim. Length, 0.054 m. No bevel (that which looks so in drawing is oxidation.) On outside, at 0.0017 m. from top, possible traces of single engraved line.

1999. (Drawing of middle part.) From back of South Building. Fragment of rim. Diameter (nearly complete), 0.0123 m. Top has bevel, slight on inside and prominent on outside.

2000. Fragment of rim. Original diameter, about 0.215 m. Top has on outside moulded bevel followed by heavy grooves. Beneath, leaf pattern, below which possible trace of seale pattern. Farther down, single line.

Discarded: six fragments similar to the above.

The following fragments of rims are more certainly from bowls.

2001. Original diameter, about 0.102 m. At top, bevel inside and outside. Three bands at top, with no certain trace of ornament on them.

2002. Fragments *a* and *b*. Length, 0.093 m. Top has bevel on outside. Beneath, two raised bands.

PLATE CXVII.

2003. Length, 0.281 m. Top has bevel on outside. Beneath, leaf pattern, above and below which bands.

2004. Length, 0.0565 m. Top has heavy bevel on outside. At 0.0015 m., 0.0062 m., 0.0082 m., and 0.0092 m. from bevel, single plain grooves.

Discarded: one similar to No. 2004.

2005. Length, 0.189 m. Original diameter, probably about 0.55 m. Width of rim, 0.016 m. ornament as in PLATE. Leaves of palmette and central leaves of lotus terminate in a series of adjoining double eircles usually open on sides toward centre of field. At base of lotus leaves, two of these double eircles put together with open sides facing in opposite directions. In the small portion left beneath lowest band, semi-circles (uncertain how nearly complete originally), between which arrowhead termination of ornament.

For ornament cf. Holwerda, *Jahrb.* V. p. 240. Cf. also *Jahrb.* VI. *Auz.* p. 125, No. 12 e.

Addendum. Fragment of side of inlaid bowl.

2006. No original edge preserved. Inside pentagonal space (only three sides preserved) depressed to about half the thickness of the bowl, probably for inlaying.

Class β. With handles.

Group i. Plain.

2007. Found back of South Building in 1894. Handles and bottom gone. Diameter, 0.088 m. On one side, near top, two holes 0.0325 m. apart for rivets of handle. On opposite side rivets are preserved. One of them holds small fragment of handle.

2008. Fragment of rim of large bowl. Length, 0.105 m. Projecting top with bevel beneath. Near top, holes for handle (diameter, 0.008 m., distance apart, 0.0365 m.).

Group ii. Ornamented.

2009. Fragment of rim. Length, 0.03 m. At one end near top, small hole (broken out). Decorated with three narrow double bands.

FORM 2. CONTRACTED TOP.

Class α. Without rim.

2010. Fragment of top. Original diameter at top, about 0.085 m.

2011. From south slope. Fragment of top. Original diameter, about 0.087 m.

The following fragment is perhaps from a vessel of similar shape.

2012. No original edge preserved. Length, 0.04 m.

Class β. With rims projecting on outside.

Classification of following fragments somewhat uncertain, owing to their small size.

Group i. Plain.

2013. Length, 0.036 m.

2014. Fragments *a, b, c*. From rim of large vessel. Length, 0.013 m. Top formed by rolling upper edge outward.

Group ii. Ornamented.

2015. Length, 0.0355 m. No curve. Top as in No. 2014. Broad zigzag.

2016. Length, 0.022 m. Rim solid. Broad zigzag with four grooves beneath.

FORM 3. TOP SOMEWHAT CONTRACTED AND DIFFERENTIATED FROM BODY AS A SORT OF NECK.

2017. From back of South Building. Length, 0.055 m. Side crimped from 0.0175 m. from top. Just above crimps, ring of connected crescents.

2018. (Fragments *a*, *b*, and *h*.) Fragments *a-i*. Length of *a* and *b*, 0.075 m. Seems to have bulged sharply outward at beginning of crimps, and then to have passed to bottom by a fairly straight slope.

In Bernardini tomb (Museo Kircheriano), four large shallow bowls with crimped sides. No boss in bottom.

e. Suspension vase.

2019. Found at east end of steps, south slope, April 24, 1893. In side not photographed, hole corroded through (0.025 m. \times 0.016 m.). Condition poor. Diameter, 0.0395 m. Height, 0.0525 m. Thickness, 0.0008 m. and less. Rests on standard 0.0154 m. in height. Lower part of standard rounded. Vase cast as one piece.

Possible that traces of wire for suspension existed before cleaning. Similar bronze vase from Aegina in Nat. Mus., Athens.

B. WITH SHOULDER (UNCERTAIN WHETHER ORIGINALLY WITH NECK).

2020. Top broken out around edges. Small hole in bottom. Condition poor. Diameter, 0.043 m. Height, 0.0295 m. Diameter of present opening at top, 0.026 m. Bottom distinguished from sides (height, 0.0012 m.; diameter, 0.025 m.).

2021. Top and bottom gone. Condition bad. Diameter, 0.059 m. Height as preserved, 0.03 m. Side showing in PLATE, probably the top.

C. WITH SHOULDER AND NECK.

a. Pitcher.

2022. Bottom broken off, and centre of it missing. Diameter, 0.041 m. Height, 0.061. Diameter of top, 0.0235 m.; of opening, 0.0115 m.; of bottom, 0.0214 m. Surface of top slants slightly toward opening. Handle riveted at bottom and probably at top. Upper part has form of serpent's head with jaw resting on rim. Eyes seem to have been indicated.

For shape and style cf. bronze pitcher from Mycenae (outside of shaft-graves), Mus. No. 2767.

b. Jars.

FORM 1. SHORT. VERTICAL OR NEARLY VERTICAL NECK.

Class a. Plain.

Arranged with reference to development of rim.

2023. From back of South Building. Frag-

ments of top (*a*, *b*). Length, 0.026 m. Flares slightly outward, but has no rim.

2024. From back of South Building. Fragments of top broken in two pieces (*a*, *b*). Length, 0.09 m. Diameter was about 0.138 m. at top. Slight flare, but no rim. At right end of fragment *b*, near top, small hole now broken out.

2025. From back of South Building. Fragment of top. Length, 0.0815 m. Thickens and flares at top.

2026. Fragment of neck. Length, 0.045 m. Rim formed by outward roll of top (width, 0.009 m.). Height of neck, 0.009 m.

2027. From south slope. Fragment of top with beginning of shoulder. Length, 0.10 m. Original diameter at top, about 0.157 m. Rim formed as in No. 2026. Width, 0.003 m.

2028. Fragments *a*, *c*, and *f* are from back of South Building. Several fragments of top (*a-f*). Diameter, 0.15 m. Rim flat (width, 0.005 m.). Fragments *c* and *d* preserve beginning of shoulder.

2029. Fragments of top (*a*, *b*) with beginning of shoulder. Diameter (nearly complete), 0.09 m. Rim flat. Width, 0.006 m.

Class β . Ornamented.

PLATE CXVIII.

2030. Fragment of neck. Length, 0.043 m. Top flares. Near top four fine parallel encircling lines. Placed here because of similarity in style to following number.

2031. Fragments of neck (*a-c*, not certain that *b* and *c* join) with beginning of shoulder. Diameter, 0.089 m. Flares at top and bottom. Width of rim, 0.004 m. Beneath rim, four lines as in No. 2030.

2032. (In centre beneath plaster, piece inserted as support while photographing.) Fragments of neck, *a-d*. Flares at top (width of rim, 0.004 m.). Beneath, three lines as in No. 2030.

2033. From south slope. Two fragments of rim with handles attached and beginning of shoulder. Diameter, 0.083 m. Height of neck, 0.0215 m. Rim flat on top (width, 0.0045 m.). Passes to neck by slight bevel, at base of which four lines as in No. 2030. Handles flat and plain on inside. On outside, raised edges and centre, which are cut down near rim. From point of junction with rim ends flatten and curve about neck. Width at end, 0.039 m. This end fastened with rivets, of which heads on inside are

larger than those on outside, probably for ornament. Lower end of handles joined vase, but there is no trace of any fastening.

2034. One handle gone. Surface injured by corrosion. Diameter, 0.055 m. Height, 0.079 m. Rim flat on top (width, 0.0033 m.). Passes to neck by plain bevel, beneath which two lines as in No. **2030**. Bottom concave on under side. At top of leaf pattern (left side in *PLATE*) about body, hole (diameter, 0.0015 m.). Handle fastened at upper end by two rivets, one on each side. Shafts of corresponding rivets preserved in opposite side of neck. Rivet-heads not ornamental, but slightly larger and more prominent on inside. Lower end of handle not riveted. Ends in palmette. On top of handle, resting on very low basis, sphinx, looking toward inside. Cast solid with handle. Height, 0.021 m. Lower part of legs solid and unornamented. No tail. Wings double and alike in decoration. Short, thick neck. Rather heavy face, with eyes nearly circular, full rounded chin, and small mouth. Hair represented as a mass distinguished plastically from forehead and cheeks, but no details are given except a single line near front. On left side of neck three short cross lines, which may indicate that hair came down side of neck; on the right side it is carried down in the modeling.¹

FORM 2. UPPER PART OF NECK FLARES TOWARD TOP AND ABOUT CORRESPONDS IN LENGTH TO NECKS OF PRECEDING FORM.

2035. Found on south slope stairs, middle, April 24, 1895. Handles with small piece of rim attached. Diameter of top, 0.086 m.; of bottom of preserved part, 0.066 m. Heavy, solid handles, inside plain. On outside, raised edges and centre which are separated from concave fields by single grooves. On sides of handles, similar groove running down centre. Upper side cut away near rim as in No. **2033**. End of handle grips rim of vase, and then spreads about neck beneath ledge. Fastened by rivets at upper end. Head of rivets larger on inside. Uncertain how lower end was fastened. No signs of attachment. Shape of remainder of neck uncertain, but it seems to have widened rapidly.

FORM 3. NECK CLOSES INWARD FROM SHOULDER.

2036. From south slope. Fragment of neck.

¹ For general design cf. *Olympia*, No. 671, ascribed by Furtwängler to sixth century. Its form is simpler and less developed than that of Heraeum specimen. Cf. also for

Length, 0.08 m. Width of rim, 0.009 m. Flare at bottom probably beginning of shoulder.

Addenda to Vases. (a'.) The following fragment is perhaps top of neck of rimless jar.

2037. From south slope. Condition poor. Bent. Diameter, 0.082 m. × 0.055 m. About top, narrow leaf pattern. Leaves indented. Groove above, below, and across lower end.

(b'.) The following pieces have bottom or bottom and sides backed by lead.

Without shoulder or neck (low basin).

2038. Fragments *a-f*. Uneleaned. Fragment *a*. About two thirds of circle of bottom and side. Condition poor. Bent. Diameter at present about 0.30 m. About side and edge of bottom, inserted lead strip. Thickness, 0.01 m. to 0.04 m. Lead covered inside and out with sheet bronze, but changed in shape through being melted. No indication that sides rose higher than at present. On under side, two pieces belonging to bottom attached by rivets. Fragments *b-f* are of lead except for small pieces of bronze attached to *b*, *c*, and *d*. Fragments *c* and *d* join. Contour of edge of bottom preserved by *c* and *e* (*PLATE* shows under side of *c*). It was depressed and surrounded by deep groove.

With shoulder and neck (cauldron).

PLATE CXIX.

2039. From West Building. Besides fragments *a-h*, which show in *PLATE*, twelve small bits of bronze. All except *a* and *b* may belong either to this number or to No. **2038**. Fragment *a*. Part of side and bottom. Length, 0.36 m. All bronze except for piece of backing about edge of bottom. Bottom attached to side by rivets. Was possibly, though not probably, double. Side piece was joined to its continuation at one end by rivets. Fragment *b*. About half of rim with piece of side. Diameter of rim, 0.222 m. Height of rim, 0.021 m. Rim double, with upper edge bent outward. Not certain where pieces join, but probably in shoulder. Fragment *c*. Two pieces of bronze riveted together. Fragments *d-h* have rectangular holes made with solid punch. Large round holes in fragment *g* cut with hollow punch from opposite side to that from which rectangular hole was struck.

(c'.) Unclassified bottoms (mainly bosses).

shape small clay amphora from Mycenae (outside of shaft-graves), No. 1111.

2040. Top mostly gone, and condition poor. Boss. Diameter, 0.048 m.

2041. Fragment of boss. Diameter, 0.05 m.

2042. From south slope. Two fragments which do not belong to same boss. Right-hand fragment discarded.

2043. From south slope. Diameter of boss, 0.033 m.

2044. Diameter of boss, 0.022 m.

2045. From back of South Building. Fragment with part of boss. Dimensions, 0.057 m. × 0.049 m. Beginning of boss indicated by groove on under side. Outside, ring of small dots. Inside (1) ring of short straight lines pointing toward centre, (2) ring of small dots.

2046. (Shows upper side.) Diameter of boss, 0.03 m.

2047. (Shows under side.) Diameter of boss, 0.041 m. Hole in ornament, 0.0065 m. in diameter, filled with iron.

Discards: ten bosses, of which one from back of South Building and three from south slope. Unclassified fragments of vases, 252, of which 115 from back of South Building, one from south slope, and one from West Building.

D. HANDLES OF VASES AND CAULDRONS.

DIVISION I. HORIZONTAL. DIRECT ATTACHMENT.

Type a. Rounded bar.

FORM 1. BROAD.

Class α. Riveted.

2048. From south slope. Width, 0.047 m. Projected, 0.03 m. One foot has part of bronze rivet, the other has rivet and small piece from side of vase adhering.

Class β. Stuck.

(a') Plain.

2049. Width, 0.0393 m. Projected, 0.0245 m.

(b') Ornamented.

2050. Width, 0.0397 m. Projected, 0.0265 m. In centre of bar, bead with grooved ring at either side. At each end of bar transition to foot by ring.

FORM 2. NARROWER. STUCK. UNORNAMENTED.

Group i. Rounded feet.

2051. One side defective. Projected, 0.041 m. from vase.

2052. From south slope. Width, 0.033 m. Projected, 0.037 m.

Group ii. Long feet.

2053. One foot about half gone. Projected, 0.0335 m.

FORM 3. LARGE. ROUNDED FOOT. HORIZONTAL PLANES. FEET STUCK.

2054. Part of one leg left. Projected, 0.046 m. Transition ring between leg and foot. Foot somewhat concave. Small round hole near centre, probably a flaw.

FORM 4. LARGE. FLOWER AT CENTRE OF BAR. FEET STUCK.

2055. Fragment of one leg. Projected, about 0.07 m. Cast in one piece.

Cf. *Olympia*, No. 911, for complete example of this handle.

Type b. Flat bar. Projects in horizontal plane. Feet stuck.

2056. One foot gone. Width, 0.103 m. Projected, 0.036 m. Foot concave in long axis as though attached to rim. Leaf pattern. Small circles at joinings of tops of leaves.

Similar, but more elaborate, De Ridder, *Bronzes de l'Acropole*, No. 210.

PLATE CXX.

2057. Both feet broken and defective. Projected, 0.0505 m. Feet concave in long axis.¹

Type c. Rectangular bar with rounded corners. Feet probably stuck.

2058. One foot gone, the other damaged and bent. Width, 0.055 m. Projected, 0.05 m.

Type d. Rectangular bar with broader side upright.

2059. From back of South Building. Condition poor. Width, about 0.095 m. Projected, about 0.03 m.

2060. Condition poor. Width, 0.08 m. Projected, 0.061 m. Feet must have held nearly rectangular edge.

Discarded: one.

Type e. Rounded polygonal and triangular bar with legs bent upward. Feet stuck.

With this type cf. handles of broken bowls from Mycenae, e. g. Mus. No. 2368.

FORM 1. TRIANGULAR BAR.

Under side somewhat more convex than the others, and usually somewhat wider.

Class α. Legs bent.

2061. (Shows under side.) Width, 0.0955 m. Surface of feet flattened on one side for attachment.

2062. (Shows under side.) Width, 0.0585 m. Foot has slightly concave surface for attachment.

Class β. Nearly horizontal.

2063. Width, 0.065 m. Surface of foot has slit lengthwise for attachment.

¹ Identified by Miss M. Louise Nichols.

2064. (Shows upper side.) Width, 0.058 m. Oblong shallow holes in both feet.

2065. From back of South Building. Width, 0.076 m. Oblong holes in feet.

Cf. *Olympia*, No. 926 (no holes in feet).

FORM 2. TOP AND BOTTOM OF BAR ALMOST FLAT, SIDES CONVEX AND WIDER. ATTACHED TO SURFACE WITH SHARP SLANT.

2066. (Shows upper side.) From back of South Building. Width, 0.06 m.

FORM 3. ROUNDED BAR, IN PART ELLIPTICAL. BROADER SIDE IN HORIZONTAL PLANE. ATTACHED TO SURFACES WITH SHARP SLANT.

2067. (Shows upper side.) Width, 0.066 m. Knobs at side undercut.

2068. Width, 0.075 m. Conical, undercut knobs.

Type f. Bar broad and flat.

2069. Small fragment. Length, 0.036 m. Thickness, 0.0018 m. Back flat, bevels only on one side. Regarded as fragment of handle (rather than of a wheel) after analogy of following number.

2070. Broken at both ends. Length, 0.091 m. Thickness, 0.002 m.

Type g. Bar has returning ends.

2071. (Drawing of half.) From south slope. Width, 0.224 m. Thickness, about 0.0035 m. Holes for nostrils.

Cf. De Ridder, *Bronzes de l'Acropole*, No. 212.

Addenda. The following fragments seem to be from handles of shape somewhat similar to No. 2071.

2071 a. Condition poor. Length, 0.038 m. Two small holes for rivets. Object could be attached decorative serpent's head.

2071 b. Length, 0.125 m. Rivet for attachment, 0.004 m. in diameter. Head on inside of vessel, diameter, 0.007 m. Returning end ornamented with narrow convex surface in cut at 0.0185 m. from tip.

Discarded: two.

DIVISION II. HORIZONTAL. INDIRECT ATTACHMENT.

Type a. Attachment by external rivet.

FORM 1. FOOT TURNS OUTWARD.

2072. One foot gone. Present width, 0.03 m.

FORM 2. FOOT TURNS INWARD.

2073. One foot uncoiled, twisted, and broken off. Condition poor. Width, 0.0535 m. Through left foot passes rivet with small piece

of metal attached to each end. Between upper piece and bar, another slightly thicker piece.

Type b. Attachment by eyelet.

FORM 1. BAR CURVES OUTWARD AT FOOT. PLATE CXXI.

2074. From above last part of Stoa under Cyclopean wall. Bar broken at both ends. In each case, broken out hole through which rivet passed which held it to side of vase. Length of bar, 0.054 m. Width on flat side, 0.007 m. Right eyelet (in PLATE) formed by meeting of two semicircular prongs.

Cf. *Olympia*, No. 664, with shorter returning ends. Similar piece with different purpose from Argos specimen from temple of Athena Cranaea near Elateia (*B. C. II. XII. p. 55* [P. Paris]).

2075. From back of South Building. Both ends broken. Length, 0.0375 m.

2076. From back of South Building. One leg preserved. Length, 0.064 m.

2076 a. One end gone. Height, 0.022 m. Knob at end.

2077. Bar for attachment. Cf. No. 2074. Length, 0.051 m. Thickness, 0.006 m. Inner diameter of eyelets, 0.004 m. and 0.0045 m. Right rivet projects at back 0.001 m., the other less.

Addenda to FORM 1. The following numbers are perhaps only bent pieces of wire.

2078. Length, 0.05 m.

For curve of end cf. *Olympia*, No. 864.

2078 a. From back of South Building. Height, 0.037 m. Perhaps better regarded as a spit end.

2078 b. Uneleaned. One end gone. Rectangular bar with ordinary angular knob in centre of bow. Height, 0.037 m.

Discards of FORM 1: ten (of which six uncleaned).

FORM 2. BAR CURVES INWARD AT FOOT.

2079. From south slope. One foot gone. Width, 0.033 m. Cf. No. 2073.

Addendum to FORM 2. It is not certain that the following number is a handle.

2080. Bent. Height, 0.054 m.

FORM 3. BAR A SIMPLE RING (CLOSED OR OPEN).

Class a. Eyelet passes through object and is bent back on inside. (Perhaps only ornamental attached rings, but formally best put here.)

2081. Condition poor. Diameter of ring, 0.0132 m.

2082. Attached piece damaged, but perhaps

has upper edge original. Diameter of ring, 0.0165 m. Ends of eyelet bent back flat on inside and in opposite directions. Attached piece a sort of ear, which was itself probably attached to side of vase.

Cf. ornaments of eyelet and ring on elliptical bronze cist in Museo Gregoriano, No. 327, *Mus. Greg.* I. pl. 87.

2083. Ring and part of eyelet. Diameter, 0.0225 m. Ring open and ends meet in eyelet.

2084. From back of South Building. One side of eyelet strap gone. Diameter, 0.0264 m.

2085. Eyelet gone, but ring has narrow depression where it passed. Diameter, 0.035 m. Bar somewhat flat.

2086. Seems to be complete, although only one end of strap passed through object. Ring rather flat (section would be pear-shaped). Diameter, 0.0198 m.

Discarded: one.

Class β. Eyelet welded to plate which was riveted to object.

2087. Diameter of ring, 0.046 m. Thickness of plate, 0.0015 m.–0.003 m. Eyelet cast separately. Diameter, 0.0165 m. Above, two rivets.

Type c. Feet turn in and pivot in ends of attached socket-piece.

Not all cases which fall formally under this type are true pivots. The feet often meet in the socket-piece, thus agreeing essentially with **Type b.** It seems best to put them all together, partly because of the formal connection and partly because it is difficult in many cases to ascertain whether there is a true pivot or not.

FORM 1. ROUNDED BOW.

Class α. Bar tapers to end of feet without indication of point where they become pivots.

Group i. High bow. Bow plain.

(*α'*.) Handles from which socket-piece is lost.

2088. Width, 0.0177 m. Height, 0.0165 m.

2089. Width, 0.023 m. Height, 0.014 m.

2090. Width, 0.0233 m. Height, 0.017 m.

2091. Width, 0.024 m. Height, 0.0227 m.

2092. Width, 0.026 m. Height, 0.023 m.

2093. Width, 0.0266 m. Height, 0.0225 m.

2094. Width, 0.0267 m. Height, 0.021 m.

2095. Width, 0.027 m. Height, 0.024 m.

2096. Width, 0.027 m. Height, 0.025 m.

2097. Width, 0.0275 m. Height, 0.0245 m.

2098. Width, 0.028 m. Height, 0.0262 m.

2099. Width, 0.0284 m. Height, 0.0255 m.

2100. From south slope. Width, 0.0287 m. Height, 0.0215 m.

2101. Width, 0.0287 m. Height, 0.024 m.

2102. Width, 0.029 m. Height, 0.0245 m.

2103. From West Building. Width, 0.029 m. Height, 0.026 m.

2104. Width, 0.0293 m. Height, 0.0245 m.

2105. From south slope. Width, 0.03 m. Height, 0.0253 m.

2106. Width, 0.032 m. Height, 0.027 m.

2107. From back of South Building. Width, 0.0323 m. Height, 0.03 m.

2108. Points blunted. Width, 0.0332 m. Height, 0.0245 m.

2109. From West Building. One point broken. Width, 0.0357 m. Height, 0.027 m.

2110. Points blunted. Width, 0.0365 m. Height, 0.027 m.

2111. From back of South Building. Points blunted. Width, 0.0414 m. Height, 0.0317 m.

2112. Points broken. Width, 0.0414 m. Height, 0.0368 m.

2113. From south slope. Width, 0.0424 m. Height, 0.0337 m.

2114. Width, 0.051 m. Height, 0.043 m.

2115. Points damaged. Width, 0.122 m. Height, 0.095 m.

In the following numbers (2116–2118) the opening is at one end of flat side.

2116. Width, 0.021 m. Height, 0.0215 m. Ends overlap slightly.

2117. Uncertain whether ends are broken. Width, 0.0233 m. Height, 0.02 m.

2118. Both ends probably broken. Bent. Width, 0.0563 m. Not certainly a handle, but shape of bow hardly accidental.

Addenda. It is not certain whether the following numbers (2119–2122) are handles.

2119. Width, 0.0233 m. Height, 0.0275 m. Bar rectangular at end. Ends overlap at centre of under side.

2120. Width, 0.032 m. Height, 0.0295 m. Ends meet.

2121. Ends broken. Width, 0.025 m. Height, 0.022 m.

2122. Ends broken. Bent. Width, 0.053 m. Height, 0.0355 m.

Besides the above, there are a number of open rings which have on the side where the ends meet a flattened or pulled-out appearance, suggesting a possible use as handles.

2123. Width, 0.019 m. Height, 0.0215 m. Ends overlap.

2124. Points injured. Width, 0.0199 m. Height, 0.0185 m.

2125. Ends damaged. Width, 0.021 m. Height, 0.0235 m. Section of bar would be a flattened ellipse.

2126. Width, 0.0217 m. Height, 0.023 m.

2127. From West Building. Width, 0.0239 m. Height, 0.0233 m.

2128. Width, 0.0247 m. Height, 0.0237 m. Ends overlap slightly.

2129. Width, 0.0253 m. Height, 0.0265 m. overlap.

2130. Ends injured. Width, 0.031 m. Height, 0.0335 m.

Discards of (a'): twenty-seven, of which two from back of South Building and one from south slope.

(b'.) Handles with socket-piece preserved.

(1'.) Socket-piece plain.

2131. Socket-piece partly broken out, but did not meet originally. Width, 0.0205 m. Height, 0.0243 m. Length of socket-piece, 0.0067 m.

2132. From back of South Building. Defective and in poor condition. Width, 0.022 m. Height, 0.026 m. Socket-piece open. Length, 0.0075 m.

2133. From West Building. Width, 0.032 m. Height, 0.0275 m. Socket-piece open. Length, 0.012 m. Interior filled with lead.

2134. Condition poor. 0.0323 m. Height, 0.032 m. Socket-piece open. Length, 0.0135 m.

2135. From south slope. Width, 0.0407 m. Height, 0.033 m. Socket-piece open. Length, 0.016 m. Interior filled with lead. Socket-piece turns still.

(2'.) Socket-piece ornamented with grooves.

2136. From West Building. Socket-piece damaged at one end. Width, 0.0188 m. Height, 0.018 m. Socket-piece open and sides overlap. Length, 0.009 m.

2137. Part of ring gone. Condition poor. Width, 0.021 m. Height, 0.0167 m. Length of socket-piece, 0.01 m. One side slightly flattened. Ornamented with about five grooves which in best preserved part look like screw-thread.

2138. Width, 0.023 m. Height, 0.02 m. Length of socket-piece, 0.0115 m.

2139. Width, 0.026 m. Height, 0.022 m. Length of socket-piece, 0.01 m. Turns.

2140. From back of South Building. Width, 0.0275 m. Height, 0.025 m. Length of socket-

piece, 0.016 m. Ends of ring, 0.0015 m. apart, visible at opening between ends of socket-piece.

2141. Width, 0.0435 m. Height, 0.0405 m. Socket-piece open. Length, 0.0155 m.

2142. From West Building. Width, 0.06 m. Height, 0.046 m. Socket-piece flattened on attached side to surface of 0.007 m. in width. Length, 0.035 m.

Cf. *Olympia*, No. 843, and for use, *ibid.* No. 845 (sketch). Also *Burlington Fine Arts Club, Exhibition of Ancient Greek Art* (1904), A 8 (pl. xlv.).

Discarded: one (under 2').

Group ii. High ornamented bow. Only one example and that doubtful.

2143. Defective and in poor condition. Width, 0.0388 m. Height, 0.0275 m. At centre of bow, bead with ring at either side (all one piece with bow). Section of bar would be octagonal.

Group iii. Bow flattened. Plain.

(a'.) Socket-piece lost.

2144. Width, 0.034 m. Height, 0.019 m.

2145. Width, 0.0345 m. Height, 0.0215 m.

2146. From West Building. Condition poor. Width, 0.0365 m. Height, 0.019 m.

2147. Width, 0.0365 m. Height, 0.0205 m.

2148. Height, 0.021 m. Width, 0.037 m.

2149. Condition poor. Width, 0.038 m. Height, 0.019 m.

2150. Width, 0.038 m. Height, 0.025 m.

2151. Width, 0.042 m. Height, 0.023 m.

2152. From south slope. Condition poor. Width, 0.04 m. Height, 0.023 m.

2153. Width, 0.0455 m. Height, 0.027 m.

2154. From south slope. Width, 0.0455 m. Height, 0.0235 m.

2155. Width, 0.051 m. Height, 0.0215 m.

2156. Width, 0.0575 m. Height, 0.0265 m.

The following have opening at end of pivot side.

2157. Part of bottom gone. Width, 0.035 m. Height, 0.026 m.

2158. Width, 0.0379 m. Height, 0.0196 m.

2159. Width, 0.044 m. Height, 0.0275 m.

The following has ends meeting at centre and overlapping.

2160. Ends damaged. Width, 0.0373 m. Height, 0.025 m.

Addendum. The following object has shape of handle of this group, but is perhaps better regarded as end of bladed spit.

2161. Width, 0.052 m. Height, 0.024 m.

Discards of (a') : twenty-one cleaned, mostly fragments, one being from south slope, one from West Building, and two from back of same building; also four uncleaned fragments.

(b'.) Socket-piece preserved. Socket-piece ornamented.

PLATE CXXII.

2162. Condition poor. Width, 0.03 m. Height, 0.018 m. Socket-piece flattened on one side.

2163. Width, 0.0345 m. Height, 0.021 m.

2164. From West Building. Width, 0.0385 m. Height, 0.028 m. Shallow holes in socket-piece in which ends of ring play freely.

Discarded : one.

Group iv. Flattened bow. Bow ornamented.

(a'.) Ornament in centre of bow.

2165. Width, 0.048 m. Height, 0.035 m.

2166. From south slope. Width, 0.04 m.

Cf. Olympia, No. 836.

2167. Ring defective. Width, 0.033 m. Height, 0.02 m.

2168. From West Building. Width, 0.0765 m. Height, 0.046 m.

Discards of (a') : three uncleaned and uncertain fragments.

(b'.) Ornament at ends of bow.

2169. Width, 0.0375 m. Height, 0.025 m.

2170. Width, 0.094 m. Height, 0.054 m. Bar octagonal in section, with four broader sides connected by four that are narrower. Socket-piece has groove on top extending nearly to centre. Bottom and side of groove of bronze.

For style of ring part, *cf. Olympia, No. 829.*

Class β. Pivots separated from remainder of bar by beads.

Group i. High bow.

2171. Width, 0.0395 m. Height, 0.033 m.

2172. Found probably northeast corner near east end of Stoa and near or under Cyclopean wall. Width, 0.048 m. Next to pivots, bead with narrow ring at either side.

Group ii. Flattened bow.

2173. About half gone. Height, 0.0355 m.

2174. Condition poor. Width, 0.062 m. Uncertain whether pivots are inserted or cast with object. Probably the former.

Cf. Olympia, No. 835.

Discard : one uncleaned, similar to No. 2174.

FORM 2. RECTANGULAR BOW.

(a'.) Plain.

2175. Ends broken. Width, 0.10 m. Incom-

pleteness renders classification uncertain. Could be put with *Olympia*, No. 662 (horizontal, riveted flat ends).

(b'.) Ornamented.

2176. From back of South Building. Ends broken. Width, 0.046 m. Bar rectangular, with sharp corners.

2177. Condition poor. Width, 0.141 m. Height, 0.064 m. Bar octagonal.

Cf. Olympia, Nos. 825, 827, especially the latter.

Type d. Similar to Type c, but the socket-piece is attached to the body of the ring, forming a sort of eyelet. It is not, however, a true eyelet any more than it is a true socket-piece, and hence is best put apart from Types b and c.

2178. Socket-piece much damaged. Height of ring, 0.026 m. Original length of socket-piece, about 0.011 m. Probably plain.

2179. Condition poor. Width of ring, 0.0335 m. Possible traces of ornamental grooves on socket-piece.

Addenda to Types c and d. Socket-pieces and applied ornaments of same form. (For another use, viz. on tripod standards, *cf. Olympia*, p. 128, No. 814.)

(a'.) Socket-pieces (holes for pivots in ends).

2180. Length, 0.018 m. Diameter, 0.0125 m. Interior lead. Plain.

The following numbers (2181–2185) have ornamental grooves.

2181. From West Building. Length, 0.011 m. Diameter, 0.0068 m. × 0.005 m. Interior lead.

2182. From West Building. Condition poor. Length, 0.0164 m. Diameter, 0.007 m. × 0.006 m. Interior filled with lead, in each end of which small hole.

2183. From West Building. Length, 0.033 m. Diameter, 0.0135 m. Interior filled with lead, in each end of which hole.

2184. Length, 0.0315 m. Diameter, 0.01 m. One side flattened to surface of 0.005 m.

2185. Length, 0.0305 m. Diameter, 0.0113 m. Flattened on one side to 0.007 m.

It is not certain that the following number belongs here.

2186. Thin sheet rolled so that ends meet. Length, 0.029 m.

Discards of (a') : five (uncleaned).

(b'.) Applied ornaments of same or similar form.

2187. Length, 0.0505 m. On one side shal-

low groove, 0.004 m.-0.006 m. wide, running lengthwise. Ends smooth and slightly convex.

According to Furtwängler, *Olympia*, p. 135, groove indicates attachment to a rim.

The following are slightly different.

2188. From West Building. Length, 0.039 m. Slightly curved. Cf. No. **2788**, with which this should be classed.

2189. From West Building. Length, 0.025 m. Diameter, 0.0075 m. Round. Solid.

The following is of uncertain use.

2190. Ends probably incomplete. Length, 0.029 m. Diameter, 0.012 m. Slightly curved. One side slightly flattened.

Discards of (b') : two (uncleaned).

DIVISION III. VERTICAL.

Type a. Top of handle about on level with top of vase.

2191. Ends broken. Height, 0.043 m. Width, 0.013 m. Convex bands at side ornamented with zigzag of bent lines.

2192. Upper part damaged. Height, 0.038 m. Ornament of arrowhead hatching in centre, and of hatched transverse lines on adjoining rolls.

2193. Upper end gone. Height, 0.045 m. Width, 0.025 m. On side ridges, oblique hatching, at edges of fields, dots. Central ridge has two lines at top, but elsewhere nothing certain.

2194. Height, 0.042 m. Width, 0.02 m. Ornament of vertical grooves.

For ornament cf. *Olympia*, No. 656.

Type b. Top of handle rises above vase.

Class a. Rather heavy flat bar with or without ridges at side.

2195. Top damaged. Condition poor. Height, 0.051 m. Width, 0.012 m. Vertical grooves.

2196. Condition poor. Height, 0.05 m. Width, 0.016 m. Ornament of vertical grooves.

2197. From back of South Building. Damaged at upper end, lower end gone. Height, 0.071 m. Width, 0.016 m. Grooves.

PLATE CXXIII.

2198. Top damaged. Height, about 0.07 m. Width, 0.032 m. Guilloche of double grooves at outer edge of each field.

Not certain that following number belongs here.

PLATE CXXII.

2199. From south slope. Ends damaged, uncertain just how much. Condition poor. Height, 0.038 m. Width, 0.0127 m. Near top, rivet.

Slightly concave, otherwise no certain traces of ornament.

Class β. Bar convex on outside.

PLATE CXXIII.

2200. Ends damaged. Condition poor. Height, 0.086. Width, 0.012 m. Both ends worked off from upper side for attachment. No certain trace of ornament.

Class γ. Heavy convex triangular bar. Ornamented with figure in relief.

2201. Upper part damaged at place of attachment. Condition poor. Height, 0.051 m. Lower end indented on outside, doubtful whether originally. Inside of lower end concave. No marks of attachment. Upper end has deep groove for attachment to rim. Beneath groove, two rivet-holes (one now broken out). Above broken-out hole, a rivet. Above attachment, lion's head in low relief facing toward vase. Treatment sketchy and decorative. Nose low and broad, with nostrils indicated. Almond-shaped eyes in hollow sockets. Mouth indicated by two parallel grooves close together. Small ears. No certain indication of mane. Contour of handle but slightly altered.

Type c. Top attached to upper surface of top of vase.

2202. Height, 0.104 m. Width, 0.0235 m. In centre of top, hole cut from above (diameter, 0.01 m.). Ornament of arrowheads, in some places close enough together to be called a zigzag. At beginning of top, three large dots, punched from beneath, at right angles to axis of handle.

The following object of uncertain use is put here owing to similarity of form.

2203. Upper end broken. Condition poor. Length, 0.0575 m. Has tail and beginning of head. The sort of gill showing on lower side of head in PLATE does not appear on the other side. Tail has no surface for attachment. Object seems to be a handle in form of serpent (or fish), but roughly executed.

Discards of vertical handles : four, of which two are from south slope.

Addenda to Handles (D). (a'.) Attachment pieces for hoop or string handles.

2204. Width, 0.08 m. Lion's head rounded on top. From it rises ring, cast solid with remainder of object, with hole 0.006 m. in diameter. Treatment of head decorative. Small ears (only right preserved). Eyes given by small, round, rather deep (about 0.005 m.) holes, in

long, shallow, almond-shaped sockets. Nostrils indicated. Mouth rendered by groove. For style, see III. 5, b (above, p. 203).

For heads of similar use, cf. *Olympia*, Nos. 789 f.

2205. One ear gone. Condition poor. Width, 0.82 m. Griffin's head. Sides probably represent wings. Vessel to which object was attached was large and slightly narrowed at top. Details of head sketchy. Ear a rounded blade with dull point. Horn about 0.003 m. in height. Beak curved and thin. Between ears, indentation which seems too slight for place of eyelet. No other place of attachment for handle. Perhaps merely ornamental.

Cf. *Olympia*, No. 791.

(b'.) Not clear whether following two numbers were intended chiefly as handles or as ornaments.

2206. Length, 0.081 m. Ends concave on under side for attachment to rounded surface.

2207. Length, 0.0615 m. Same on both sides, except that one side is more concave, and hence was probably the under side. In end of projection, deep lengthwise groove, 0.004 m. in width. Nails pass clear through and have heads at back.

E. CONNECTING RODS BETWEEN BOWL AND BASE.

2208. Condition poor. Height, 0.044 m. Top has thin oxidized piece of metal on both sides. In foot, hole (diameter, 0.001 m.).

2209. One end bent. Length, 0.111 m. Octagonal bar. For shape, cf. *Olympia*, Nos. 672 f.

2210. One end gone. Length, 0.091 m. Attached metal was thin, as is shown by slight projection of rivet.

2211. Bar broken or rather cut sharply off. Length, 0.068 m.

It is less certain that the following belong here.

2212. From West Building. Shaft broken. End of foot gone. Condition poor. Height, 0.0425 m. Width of shaft, 0.008 m. Large rivet in foot. Attached piece was thin.

2213. Shaft broken. Length, 0.056 m. Small hole in each foot. Possible trace of engraved zigzag on bar.

2214. From West Building. Shaft probably broken at top. Condition poor. Length, 0.0875 m. No rivet in foot.

F. ORNAMENTS OF VASES.

2215. Bar broken. Condition poor. Length, 0.142 m. Shaft was not extended on other side of vertical bar. Near top of latter, a single engraved line. Attached to top of large vase. Projected slightly above rim.

Cf. vase from Vulci (Polledrara tomb) in British Museum, and *Olympia*, No. 852.

2216. From wall east of house of guard. Shaft broken at both ends. Rivet-hole near centre of vertical bar. In use and attachment similar to No. 2215.

It is not certain that following number is from a vase.

2217 (= **383**). From West Building. Ends of the four projecting arms broken. Length, 0.34 m. Vertical bar attached by a rivet to back piece. Back piece slightly wider than bar. From back piece project horizontal arms which do not seem to be of one piece with it. Bead ornament on arm.

2. TRIPODS AND STANDARDS.

A. FRAGMENTS OF LARGE TRIPODS.

(a'.) Legs.

PLATE CXXIV.

2218. Lower end. Length, 0.181 m. Width, 0.035 m.—0.046 m. Thickness, 0.029 m.—0.0375 m. Consists of thick three-sided shell, the inside of which is nearly filled with bronze. At back, filling projects slightly and has hole in it. Bottom a separate piece of irregular height (back, 0.0025 m.—0.015 m.; front, 0.018 m.—0.029 m.). Made of same material but more rudely. Welded to upper part. Ornamental grooves continued roughly on front, but not on sides.

For style cf. *Olympia*, No. 565 (Furtwängler's first class). *Ibid.* No. 622, is, however, more akin to Heraeum piece than No. 565.

PLATE CXXIII.

2219. Top of leg of small tripod with shallow bowl. Length, 0.08 m. Width, 0.03 m.—0.048 m. Cast in one piece. Concave surface on back for attachment of bowl, which was held by three bronze nails in top of leg (piece of one still in hole). Width of sides of leg, 0.0085 m. and 0.01 m. Decoration like that on front. From back, at edge of break, pin projects upward at angle of about 40° to support surface for bowl. Length, 0.027 m. Diameter, 0.0075 m.

This surface has vertical hole (diameter, 0.0175 m.) which continues the open space between the side bars of leg. Depth of part of bowl clasped by leg, 0.058 m. Greatest diameter of bowl was at about 0.023 m. from top of leg.

Style and fabric similar to *Olympia*, No. 622. Cf. also fragment from Zens cave on Mt. Ida, *Athen. Mitth.* X. p. 59, *Beilage*, No. 5 (Fabricius) = Halbherr and Orsi, *Antichità dell' antro di Zeus Ideo*, col. 54.

2220. Top of leg of large tripod. Small strip of upper edge seems to preserve original surface. Height, 0.077 m. Width, 0.057 m.—0.1025 m. Thickness, 0.007 m. At centre of top, broken nail-hole; in upper right corner, another; in left corner, possible traces of two others. On outside of each edge of front, four parallel vertical ribs. Sides smoothly beveled.

For decoration cf. *Olympia*, No. 562.

PLATE CXXIV.

2221. Broken at both ends. Length, 0.33 m. Width, 0.61 m. Width of sides, 0.037 m. Space between sides half filled with melted bronze, apparently for strengthening. This filling holds in place at upper end the central part of a bronze supporting pin, both ends of which are broken off short. The upper stub projects upward at a sharp angle, the lower is curved only slightly upward. Diameter of pin, 0.01 m. On middle of pin two pieces of bronze which may be remains of further fastenings, or (more likely) mere drops of metal. At both ends, between sides, remains of fine drab-colored earth, perhaps from casting. Ornament of front, double arrowhead pattern in centre with zigzag border at sides. At top, cross inside zigzag ring, above and below which, zigzag frame. Ornament of sides similar, so far as preserved, except that the vertical zigzag along edges is lacking.

Cf. *Olympia*, No. 627.

(b'.) Handles.

PLATE CXXIII.

2222. Fragment of large handle. Length, 0.101 m. Width, 0.037 m. Thickness, inner edge, 0.013 m., outer edge, 0.0065 m. Ribbed on both sides.

Cf. *Olympia*, Nos. 624 f.

The following are uncertain, but probably belong here.

PLATE CXXIV.

2223. (Shows convex side.) Perhaps frag-

ment of outer rim of large handle. Length, 0.111 m. Width, 0.0285 m. Thickness of outer rim, 0.007 m., of teeth, 0.005 m. Outer edge preserves original surface, the inner is broken. A bar similar to the outer edge of No. **2224** came next. Probable that No. **2224** was the piece. One side slightly convex, the other concave. If this is original, the piece can hardly have been a tripod-handle. Ornament substantially alike on both sides.

2224. (Shows concave side.) Fragment similar to No. **2223**, but broken on all sides. Length, 0.113 m. Width, 0.027 m. Bent in same manner as preceding number, although not quite the same curve throughout. If they belong together, they were bent while together and again after the separation.

With Nos. **2223** f. cf. *Olympia*, Nos. 636 and 639. Convexity possibly due to imitation of curve of earlier handles such as *Olympia*, No. 569.

B. LOW TRIPOD-STANDARDS.

Type a. Block feet.

2225. From south slope. Ring cracked through. Diameter (outside), 0.08 m. × 0.076 m. Width, 0.007 m. Thickness, 0.006 m. Upper surface roughly grooved as though for attachment of some object or objects. Roughness probably due to portions of bronze soldering still adhering. Feet project outward. Length of feet, 0.013 m. Have form of cylindrical blocks except on inside. Height of standard with feet, 0.012 m.

Among uncleaned scraps from Acropolis (National Museum, Athens), numerous ring standards with cylindrical and spool feet.

Type b. Spool feet.

2226. From Old Temple. Length, 0.022 m. Diameter of ends, 0.0225 m. and 0.024 m. Single foot. On one side, smooth edges where foot was applied, but no trace of fastening. May possibly have been part of handle.

Cf. *Olympia*, No. 860, attached to triangular plate, also Carapanos, *Dodone*, pl. xlvii. No. 2.

In the Carapanos collection (from Dodona), half of ring with two spools attached as feet, welded or cast together; also similar spool as part of handle. Mosaic in Capitoline Mus. (Rome) with bowl which rests on spool feet. Helbig, *Führer*, I. No. 450.

Type c. Lion's feet.

Class a. Plain.

2227. From back of South Building. Only a

single leg with small portion of ring above preserved. Height, 0.027 m. Under side of foot hollow.

Class β. Edge of ring notched.

2228. Leg and piece of ring. Height, 0.048 m. Length (straight), 0.113 m. Width, 0.021 m. Foot has six toes, the outer toe on each side being in flat relief. Rests on thin base, which may be a separate piece. Roughly cast.

Cf. *Olympia*, No. 853.

Class γ. Engraved.

2229. Leg. Upper edge broken. Height, 0.032 m. Width, 0.02 m. Rounded projections or ears on each side at top, forming transition to ring. Between ears and leg, double line. Four toes. Bottom of foot solid and flat.

PLATE CXXV.

2230. Found east of Northwest Building, 1895. Leg and part of ring. Height, 0.076 m. Length (straight), 0.138 m. Width of ring, 0.019 m. Thickness, 0.0015 m.-0.006 m., increasing toward front. Height of front, 0.025 m. On front, leaf pattern, the lower part of which is formed by semicircular punch-marks. Leg set slightly back of outer edge of ring. Convex at back. Molding at top with simple volute at either side. Five toes, one of which is very faintly indicated. The others are sharply and carefully modeled, showing joints and claws. Under side of foot hollowed out.

C. FEET OF STANDARDS.

It is uncertain what the following feet supported.

2231. Condition poor. Height, 0.064 m. Length, 0.135 m. Upper surface, 0.042 m. × 0.0225 m. In top, two holes (diameter, 0.006 m.) passing entirely through. Filled with iron — the remains of rods or rivets. Feet rest on bases which are not of same piece with upper part. Thickness, 0.004 m. and 0.005 m. Feet do not stand flatly, the object being bent so that only inner edges touch the ground. Four toes, the lines of which continue upward, forming parallel ridges. On each side continuous line of engraving down leg to sole. By means of it an additional toe is indicated on each side.

2232. Bases gone. Condition poor. Height, 0.056 m. Length, 0.108 m. Two holes through top. In centre of each foot, a bronze rivet which held base. Four toes. Claws indicated. Rested squarely on feet. Limits of feet indicated by

concave band across instep. No engraving, entire decoration being cast.

2233. Soles gone. Condition poor. Height, 0.061 m. Length, 0.1165 m. Two holes through top, now filled with iron rust. Sides of top convex and undercut, suggesting imitation of a buffer or washer. Rivet in bottom of each foot. Feet have each six toes and double heel. Above instep, ridge indicating termination of foot. Probably stood about squarely on feet.

2234. Attached soles gone. Condition poor. Height, 0.054 m. Length, 0.1085 m. Two holes through top, of which one partially filled with iron rust. Sides of top as in drawing, except that lower band has rope finish. Beneath feet, bronze soles cast in same piece with remainder of object. From bottom of each projects a rivet indicating presence of a second pair of soles, which (as in Nos. **2232** and **2233**) were probably of iron. Six toes and a double heel. Decoration cast. Seems to have stood squarely on feet.

The tops of all the above standards seem to have had resting directly on them some object which was fastened by iron rivets. Probable that this object was itself of iron. For soles on feet, cf. low ring standards from Acropolis, with lion's feet resting on round sole or square plinth, or sole and plinth (De Ridder, *Catalogue*, etc., Nos. 80 and 66).

3. MISCELLANEOUS FORMS.

A. CONTAINERS.

2235. Fragment *a* only. Oblong shallow ladle. Broken in two pieces (*a*, *b*), which are in such poor condition that they do not fit. Combined length, 0.146 m. Length of fragment *a*, 0.106 m. Width, 0.041 m. Thickness, less than 0.001 m. Depth, about 0.005 m. End of handle forms curl just under bottom. Fragment *b*, width, 0.035 m. Pointed end. Length of point, about 0.01 m. Width, 0.005 m.-0.001 m. (tapering toward end).

2236. End of small ladle. Condition poor. Length, 0.025 m. Width, 0.02 m. Differs from fragment *b* of No. **2235** in that end is brought over to form a sort of toe. In upper surface near edge, hole punched from under side. (hence before toe was formed).

2237. Ladle of which handle is lost. Width, 0.0565 m. Depth, about 0.007 m. Thickness, 0.0005 m. and less. Short stub of handle of

same piece with cup. In centre of broken edge, hole (diameter, 0.0022 m.) now broken out. At 0.012 m. from commencement of handle, thin piece (size, 0.01 m. \times 0.018 m.) riveted to inside of cup. Served as guy to keep handle from flattening.

The following piece is of uncertain identification, but seems similar to preceding number.

2238. From back of South Building. Small fragment of cup, part of some object, perhaps a ladle. Length, 0.029 m. Thickness, 0.0003 m. and less. At one side, ear (width, 0.01 m.—0.005 m.; present length, 0.0035 m.). Probably longer originally. Bottom of cup distinguished from sides. Depth, 0.002 m. Ornamented with cross in circles struck from above with punch in which cross was intaglio. Cross does not show sharply enough in drawing.

2239. (Shows back.) Sieve. Before cleaning, small piece of bronze net still attached. Condition poor. Length, 0.22 m. Width of round part, 0.111 m. Depth, about 0.007 m. End of handle turns under and to one side. Represents head and beak of bird. No details. Back of handle inscribed. See *Appendix*.

In the Carapanos collection (from Dodona) a strainer with Π on outer end of bowl.

PLATE CXXVI.

2240. From south slope. Bottom gone and handle—if one existed. Height, 0.067 m. Diameter at top, 0.0515 m., at bottom, 0.053 m. Thickness at top, 0.0025 m. to 0.0035 m. (including molding). Lower part formed by separate jacket, which fitted to outside of drum. Height, 0.0154 m. Width of legs, 0.0255 m. and 0.0265 m. (third leg mostly broken away). Bottom was applied to cylinder and held in place by jacket. Pieces of bronze solder still remain. On one side, eyelet (height, 0.0052 m.), the ends of which pass through cylinder and are bent back on inside. Diameter of eyelet, 0.0016 m. (inside). Piece of bronze in top of eyelet, perhaps wire. No other eyelet or attachment. Ornament (from top), molding, row of fine beads, leaf pattern, and two grooves. Two grooves at top of jacket and one about legs. All this ornament looks as though east.

Cf. *Olympia*, No. 885, which has, however, a heavy vertical handle.

The following three pieces are of uncertain identification, but they may be from sides of box or casket.

2241. Fragment of rim. Condition poor.

Length, 0.053 m. Height, 0.0145 m. Thickness at top, 0.007 m.; below, 0.001 m. Narrow band beneath rim, followed by zigzag in relief.

2242. Broken on all sides. Condition poor. Length, 0.047 m. Height, 0.0285 m. Thickness, 0.0035 m.—0.0045 m. Broad molding with concave centre. Beneath molding, side of vessel seems to have projected slightly outward.

2243. Fragment of rim. Condition poor. Length, 0.048 m. Height, 0.0153 m. Width of rim, 0.0034 m. Edge of under side bent back to about same width. In intervening space, plate attached to outside. One rivet remains in place. Seems to have been a rectangular vessel with shoulder.

2244. From south slope. Neck and mouth of flask. Mouth damaged. Sides pressed flat together. Height, 0.061 m. Width of neck, 0.038 m., across rim, 0.041 m. Width of rim, about 0.012 m. Outer edge of lip turned under about 0.001 m.

Large flat flask with similar neck and mouth from Vulci (Polledrara tomb) in British Museum.

B. HANDLES.

Not certain that all of the following are handles.

(a'.) Straight.

2245. Small fragment. About three fourths of width preserved. Length, 0.024 m. Width of half, 0.013 m. Heavy rib in centre, light rib or band at each side.

2246. Fragment of similar handle preserving about three fourths of width. Length, 0.029 m. Width of half, 0.0145 m.

2247. Fragment of similar handle. Original edge on both sides. Length, 0.032 m. Width, 0.03 m.

2248. (Shows under side.) Perhaps fragment of end of handle. Original edge at sides, probably nowhere else. Length, 0.03 m. Width, 0.028 m.—0.045 m. End appears to be turned under as a finish.

(b'.) Horizontal grip-handles (doubtful).

2249. Perhaps about half preserved. Length, 0.078 m. Width of shaft, 0.018 m. Thickness, 0.007 m. Diameter of foot, 0.028 m. \times 0.034 m. Grip seems to be a separate piece. Foot concave.

2250. Shaft cut about one third through as with chisel and then broken off. Condition poor. Length, 0.042 m. Width of shaft, 0.0225 m. Thickness, 0.009 m. Diameter of foot, 0.037 m. \times

0.044 m. Under side concave and roughly finished.

2251. Perhaps side piece of composite handle. Length, 0.058 m. At top, cleft extending more than half width. The portion above is concavely rounded at back but perpendicular in front. It lacks 0.0025 m. of being in line with edge beneath. Cleft 0.0015 m.—0.003 m. wide, 0.007 m. deep on under side, and 0.0045 m. on upper. Height of blade, about 0.0165 m. In upper part

two rivets. Form of object which was attached uncertain, but, owing to slight projection of rivet-heads, only a piece of sheet bronze can have been fastened to blade. This piece will then have been bent at right angles in case object was a handle, and may have served as coating for bar that would have extended at right angles from notch to assumed corresponding notch in another end piece opposite. Bottom slightly concave. Smoothly finished. Diameter, 0.025 m.

VI. IMPLEMENTS, UTENSILS, STRUCTURAL PIECES AND MATERIALS

1. PARTS OF VEHICLES.

A. FRAGMENT OF ANTIX.

2252. Broken at both ends. Length, 0.294 m. Diameter, 0.026 m. \times 0.017 m. at one end, and 0.023 m. \times 0.0175 m. at the other. Cast solid. On one flat side, beginning about 0.024 m. from small end, an inscription. See *Appendix*.

B. SMALL WHEELS.

2253. From south slope. Over half of felloe gone. Bent. Diameter, 0.1435 m. \times 0.142 m. (originally about 0.1525 m. \times 0.143 m.). Cast solid and in one piece. Imitates wooden wheel the parts of which are held together by metal plates. Central shaft braced in felloe by two cross-pieces. Diameter of shaft at centre, 0.011 m. Hole for axle, 0.0145 m. \times 0.007 m. At one end, bronze block (probably of same piece with rest) projects into hole distance of 0.005 m., representing wedge. Axle and wheels turned together. Ornamented with parallel grooves in groups of three, one group at either side cross-pieces. Outside of grooves, shaft hexagonal. Flattened surfaces at joining with felloe. This joining strengthened by an oblong plate on each side, fastened by four rivets, two in felloe and two in axle. Plates and nails represented by engraved lines. Size of better-preserved plate, 0.008 m. \times 0.0049 m. Cross-pieces, width, 0.008 m.; thickness, 0.0017 m. At joining with felloe, plate on both sides held by three rivets, which probably pass clear through, i. e. there are three in all. Size of plate, 0.012 m. \times 0.0029 m. Cross-piece inserted into felloe, and plate (like all the others) sunk into prepared socket and consequently represented as even with surface. Felloe, width, 0.0085 m.; thickness, 0.0025 m. inside and 0.0018 m. outside. Ornamented with engraved line on each side close to

outer edge. At 0.017 m. from shaft on one side, and 0.0195 m. : 0.0175 m. on the other, sets of two plates, one on each side of felloe and about opposite to each other. First set, 0.007 m. \times 0.0029 m.; second, 0.0075 m. \times 0.003 m. and 0.006 m. \times 0.0035 m. Each plate has two rivet-heads, each set being held together by two rivets. The plates are intended to hold together sections of the felloe.

Similar, but much ruder, *Olympia*, No. 510. Wooden wheel with similar arrangement of spokes, but with round hub, from peat-bog of Mercurago, province of Novara, Italy. Montelius, *Civ. Prim. It.* I. pl. 1, No. 13. On sarcophagus from Vulci (*Mon. Ant.* VIII. pl. xix. c = Martha, *L'Art Etrusque*, p. 357) similar wheel, but with curved cross-bars. Add H. L. Lorimer, *J. H. S.* XXIII. pp. 132 ff.

2254. From above east end of Stoa under Cyclopean wall. Three spokes gone and over half of felloe. Cast solid. Diameter, 0.171 m. (originally, 0.187 m.). Diameter of hub, 0.019 m. Width, 0.019 m. Spokes do not appear on inside, but there are perforations where two have been broken out. Spokes roughly oval in section near hub, passing gradually to nearly round at rim. Size at hub, 0.01 m. \times 0.007 m.; at rim, 0.0045 m.—0.0053 m. \times 0.0045 m. Width of felloe, 0.019 m. Thickness of inner edge, 0.0035 m.; of outer edge, 0.005 m. Rim or tire projects slightly more on side not shown in PLATE.

The following fragment is of doubtful identification.

2255. Perhaps outer spoke of ornamental wheel. Hollow 'bell,' smaller end of which joins inner ring. Outer end of 'bell' broken off. Of ring only stubs remain. Length, 0.077 m. 'Bell' a rounded rectangle placed cornerwise. Circumference at large end, 0.12 m.; at small end,

0.088 m. Thickness at large end, 0.001 m.—0.0038 m. Inner circle solid. Diameter, about 0.01 m. Through small end of 'bell' and inner circle passes hole (diameter, 0.006 m.). Through it may have passed rod (probably of iron) connecting centre of wheel with outer fellow. Uncertain whether large end of 'bell' joined fellow or an intermediate outer circle.

For shape cf. *Olympia*, Nos. 471 (lead) and 472; also wheel from a *tomba a cerchio* at Vetulonia (delle Pellièie), now in museum at Florence. Cf. *Scavi*, 1887, p. 472. Falehi, *Vetulonia*, p. 168, is different.

2. STRIGIL (HANDLE).

2256. Both ends broken. Length, 0.079 m. Width of upper part, 0.0165 m.—0.0235 m.; of lower part, 0.0145 m. Thickness, 0.0015 m. Inset at beginning of elbow, about 0.001 m. on each side. Upper end beveled at beginning of blade.

3. BELL.

2257. Broken at bottom. Clapper gone. Height, 0.062 m. Thickness of metal at lower edge, 0.001 m.—0.002 m. Shape that of rounded rectangle. At top, ring, of one piece with bell. Diameter of hole, 0.015 m. Clapper was attached to bronze staple which was infixed in under side of top. About staple, remains of bronze solder. Diameter of staple, about 0.005 m.

4. CYMBALS.¹

(a'.) Plain.

2258. Handle gone. Edges cracked. Diameter, 0.07 m. Thickness at edges, 0.0005 m.—0.0017 m. Diameter of boss, about 0.042 m. At about centre of boss, hole cut from above. Diameter, 0.0035 m. Flange slightly bent up, especially at edge.

2259. Handle gone. Condition poor. Diameter, 0.078 m. Diameter of boss, 0.0435 m. In centre, hole. Diameter, 0.0035 m. Flange bends back slightly, and at edge is turned up (depth of roll, 0.001 m. and less).

PLATE CXXVII.

2260. Handle gone. Condition poor. Diameter, 0.0945 m. Diameter of boss, 0.055 m. Flange convex on under side. At edge, rim, of which width, 0.004 m.—0.005 m. It projects

about 0.001 m. on under side, the remainder on upper.

Cf. *Olympia*, No. 513.

(b'.) Ornamented.

2261. Handle gone. Condition poor. Diameter, 0.0915 m. Diameter of boss, 0.045 m. In centre, hole (diameter, 0.005 m.). Thickness of metal, about 0.0006 m., except at edge, which is about 0.001 m.—0.0017 m., thus forming slight backward turn. Flange slightly convex on under side. Outer and inner edges on upper side have leaf pattern. Leaves of horseshoe shape. Round ends toward interior of flange. As leaves are not exactly alike they are either engraved or else punched with more than one punch.

Cf. *Olympia*, No. 517 (dotted adjacent semi-circles).

5. KEY.

PLATE CXXVI.

2262. From West Building. Length, 0.065 m. Ring flat on inside and convex on outside. Diameter (inside), 0.0175 m. In barrel, hole. Diameter, 0.005 m. Depth, 0.01 m. Diameter of barrel, 0.0045 m.—0.0075 m. Thickness of flange, 0.003 m.—0.0065 m.; of centre piece, 0.0035 m.—0.0048 m. Except for groove on barrel above flange, ornamented on one side only (shows in PLATE). Teeth on outer edge of flange have on top, each an x. On back of this edge a single diagonal line from each lower corner of depression between teeth, giving effect of zigzag.

6. KNIVES.

(a'.) Sickie.

PLATE CXXVII.

2263. Point injured and edge nicked. Length, 0.189 m. Blade fairly sharp where edge is preserved. Width, 0.03 m. and less. Thickness at back, 0.004 m. and less. Blade passes to but for insertion into handle. Length of but, 0.03 m.; width, 0.028 m.; thickness, 0.002 m.—0.0045 m. Near end, hole for rivet. Diameter, 0.0057 m. Hole drilled from side that shows in Plate. Cf. Tsountas, 'Εφημ. 'Αρχ. 1899, cl. 124, pl. 10, No. 43, from Syra (Χαλανδριανή); Schmidt, *Schliemann's Sammlung*, etc., No. 6454, from Troy VI.; Rolfe, *A. J. A.* VI. p. 106, No. XII. from Anthedon.

(b'.) Spatula.

PLATE CXXVI.

2264. Length, 0.15 m. Length of blade, 0.0755 m. Width, 0.025 m. Thickness, 41 (Hogarth), as shields appear to be different from these.

¹ The objects from the Dietæan cave published in the *Annual of the British School at Athens*, VI. p. 109, fig.

0.00025 m.—0.001 m. Both sides ornamented with fine curved zigzags. Pattern consists of diagonals running from edge to centre of blade. In upper part they are roughly parallel to each and cross blade. From about middle of length downward they do not go clear across. In some cases they meet each other, forming arrow-heads. Toward bottom parallelism is dropped and lines curve slightly outward fanwise. Handle tapers from width of 0.007 m. and thickness of 0.0026 m. to point. Edges angular. On both sides of handle, zigzag, the band of which is itself a zigzag of curved lines. Handle rather than tang, owing to decoration.

(c'.) Scraper or chopping knife.

PLATE CXXVII.

2265. Length, 0.1025 m. Width, 0.01 m.—0.0317 m. Thickness at top, 0.0018 m.—0.0027 m.; increases to 0.0043 m. at beginning of blade, whence decreases on both sides to edge. Edge still fairly sharp. Groove lengthwise of top. Hence not intended to be used as chisel or wedge.

Cf. Dörpfeld (Götze), *Troja u. Ilion*, I. p. 346; *Excavations at Phylakopi in Melos* (Bosanquet and Welch), p. 190, pl. xxxviii. No. 3. Two specimens from Mycenae (outside shaft-graves), in Nat. Mus., Athens, No. 1347. Both flare more at blade than Heraeum celt. In British Mus., Third Egyptian Room, Case F, similar knives attached by means of cloth and wire to wooden blocks provided with handles, thus becoming planes.

(d'.) Scraper or chisel.

2266. Top rough and somewhat battered. Edge dull and blunted. Length, 0.078 m. Width, 0.0224 m.—0.0345 m. Thickness at top, 0.005 m., battered to 0.006 m. Uncertain whether present surface of top is original.

(e'.) Chisels (and uncertain objects of similar form).

Round.

2267. Length, 0.133 m. Width of blade, 0.01 m. Edge dull. Top battered. Just beneath, raised band roughly executed, but intended to represent a heavy ring to which a lighter ring is attached on under side. Cf. Schliemann, *Tiryns*, p. 167, No. 99.

2268. Uncertain, perhaps end of spit. Top gone. Blade damaged. Length, 0.052 m. Diameter of shaft, 0.002 m. Width of blade, 0.0032 m.

2269. From West Building. Uncertain. Top

broken. Length, 0.0635 m. Flattened toward top. At break, 0.007 m. × 0.0035 m. Flat side of top lies diagonally with reference to axis of blade. Width of blade, 0.006 m.

Rectangular.

2270. Top broken off. Condition poor. Length, 0.072 m. Shaft, 0.0055 m. at top. Width of blade, 0.009 m. Edge blunted.

2271. From West Building. Top gone (partly cut and partly broken). Length, 0.0775 m. Bar, 0.0059 m. × 0.0062 m. at top. Blade in axis of broader side. Width, 0.008 m. Edge broken concavely. PLATE shows narrow side of blade.

2272. Uncertain. Seems to be complete. Blade bent over at end. Length, 0.091 m. Width, 0.004 m.—0.009 m. Thickness of shaft, 0.002 m.—0.003 m. Top somewhat battered. Blade blunt.

7. SPITS.

A more methodical classification than that here adopted would be by (1) style of shaft, (2) point or blade at end, (3) style of knob, (4) number of knobs. The fact, however, that so large a proportion of shafts and ends are defective imposes classification by preserved parts, i. e. (1) number of knobs, (2) style of knobs, (3) style of shaft, (4) point or blade.

Type a. No knob.

Class a. Round shaft.

Pointed ends.

2273. Bent. Length, 0.024 m. Thickness, 0.002 m.

2273 a. Uncleaned. Bent. Length, 0.272 m. Thickness, 0.0025 m.

Addenda. (a'.) Of the following ends some may belong to pins and pieces of wire, but the majority are probably from spits.

2274. Length, 0.067 m. Thickness, 0.001 m. Flexible.

2275. From back of South Building. Length, 0.048 m. Thickness, 0.0015 m.

2276. Length, 0.107 m. Thickness, 0.0015 m.

2277. Length, 0.101 m. Thickness, 0.0015 m.

2278. Uncleaned. Patinated. Length, 0.25 m. Thickness, 0.0019 m.

2279. From West Building. Freshly broken. Length, 0.055 m. Thickness, 0.002 m.

2280. From West Building. Length, 0.049 m. Thickness, 0.0021 m.

2281. From back of South Building. Length, 0.227 m. Thickness, 0.0021 m.

2282. From West Building. Large end smooth. Length, 0.10 m. Thickness, 0.0025 m. Perhaps part of separable pin.

2283. Broken end split down for distance of 0.08 m. Bent something like a hook. Length, 0.35 m. Thickness, 0.004 m.

2284. Bent. Length, 0.272 m. Thickness, 0.004 m.

2285. Length, 0.191 m. Thickness, 0.0043 m.

2286. Length, 0.434 m. Thickness, 0.005 m.

2287. Uncleaned. Bent so that small end passes through loop. Length, 0.682 m. Thickness, 0.003 m. Length makes classification as spit doubtful.

Discards: sixteen cleaned and one hundred and thirteen uncleaned. Sizes represented by above selection.

(*b'*.) The following bladed ends, though probably belonging to spits with one or more knobs, are, for reasons given above, put here.

2288. Blunted. Length, 0.116 m. Thickness, 0.0055 m.

2289. Length, 0.124 m. Thickness, 0.006 m. Width of blade, 0.007 m. Thickness, 0.003 m.

2290. Length, 0.155 m. Thickness, 0.005 m. \times 0.006 m. Width of blade, 0.0075 m.

2291. Length, 0.221 m. Thickness, 0.0065 m. Width of blade, 0.012 m.

2292. Uncleaned. Twisted crack lengthwise. Length, 0.154 m. Thickness, 0.002 m. \times 0.003 m. Width of blade, 0.004 m.

Discards of (b'): twenty-six, all uncleaned.

(*c'*.) The following have lost both ends. Probably the majority are from spits.

2293. Length, 0.054 m. Thickness, 0.0012 m.

2294. Length, 0.113 m. Thickness, 0.0017 m.

2295. Length, 0.104 m. Thickness, 0.0018 m.

2296. From back of South Building. Length, 0.0565 m. Thickness, 0.002 m.

2297. Length, 0.102 m. Thickness, 0.0021 m.

2298. From back South Building. Length, 0.099 m. Thickness, 0.0024 m.

2299. From back of South Building. Length, 0.092 m. Thickness, 0.0024 m.

2300. From south slope. Length, 0.169 m. Thickness, 0.0025 m.

2301. From first chamber at east end on lower terrace, April 28, 1893. Bent. Length, 0.093 m. Thickness, 0.0028 m. Possibly a part of a handle.

2302. From West Building. Length, 0.115 m. Thickness, 0.0035 m.

2303. Length, 0.135 m. Thickness, 0.0047 m.

2304. Length, 0.22 m. Thickness, 0.005 m.

2305. Length, 0.29 m. Thickness, 0.0055 m.

2306. Length, 0.273 m. Thickness, 0.0058 m.

2307. Length, 0.395 m. Thickness, 0.006 m.

2308. Length, 0.418 m. Thickness, 0.006 m.

2309. Length, 0.42 m. Thickness, 0.006 m.

2310. Length, 0.505 m. Thickness, 0.0085 m. Perhaps used as hook.

In the following numbers the blunted ends may be original.

2311. Length, 0.353 m. Thickness, 0.0023 m. $-$ 0.0038 m. Smaller end smoothly rounded.

2312. Length, 0.373 m. Thickness, 0.003 m. $-$ 0.004 m. Smaller end as in No. 2311.

Discards of (c'). Cleaned: forty-six of length and thickness included in above catalogued specimens. Two of them from south slope and one from back of South Building. Uncleaned: six hundred and sixty-four of length and thickness included as above except length, 0.048 m.; thickness, 0.0075 m. $-$ 0.011 m.

Class β . Shaft rectangular and round.

Group i. Pointed ends.

2313. Uncleaned. Length, 0.261 m. Thickness, 0.0015 m. Rounded toward point.

2314. Ends slightly blunted. Length, 0.126 m. Thickness, 0.0018 m. and less.

2315. Uncleaned. Bent double and twisted. Length as now, 0.222 m. Thickness, 0.0025 m. and less.

Addenda. Not certain that the following if complete would belong here.

(*a'*.) Fragments with pointed end.

2316. Length, 0.086 m. Thickness, 0.0015 m. and less.

2317. Length, 0.0435 m. Thickness, 0.0019 m.

2318. Uncleaned. Length, 0.15 m. Thickness, 0.0015 m.

2319. Length, 0.122 m. Thickness, 0.003 m. and less.

2320. Uncleaned. Length, 0.127 m. Thickness, 0.0023 m. \times 0.001 m. and less. Toward large end flattens to 0.0007 m.

Discards of (a'): cleaned, three; uncleaned, forty.

(*b'*.) Fragments with blunt ends. Uncertain.

2321. Length, 0.465 m. Thickness, 0.0045 m. \times 0.0055 m. to 0.003 m. \times 0.0037 m.

2322. Uncleaned. Length, 0.165 m. Thickness, 0.0045 m. and less. Perhaps a nail.

(*c'*.) Fragments with bladed points.

2323. Uncleaned. Length, 0.312 m. Thickness, 0.002 m. Width of blade, 0.0045 m.

2324. Bent. Length, 0.234 m. Thickness, 0.0045 m. and less. Width of blade, 0.005 m.

2324 a. Uncleaned. Point injured. Length,

0.303 m. Thickness, 0.0018 m. and less. Width of blade, 0.0025 m.

The following number has a composite shaft.

2325. Bent. Length, 0.283 m. Thickness, 0.005 m. and less. Width of blade, 0.0065 m. Rectangle has three engraved lines at transition to round. Into rectangle is inserted flat piece (length, 0.026 m.; width, 0.005 m. \times 0.0015 m.) which is held by a rivet. Uncertain how this piece ended.

Discards of (c'): two uncleaned.

Group ii. At one end, blunt tip, immediately preceded by groove.

2326. Uncleaned. Length, 0.304 m. Thickness, 0.003 m. and less. Rectangle terminates 0.069 m. from blunt end and 0.075 m. from point. Transition to round more abrupt toward blunt end. Shaft pinched in just before tip, which is imperfectly developed.

Addenda. Fragments. Not certain that all would belong here if complete.

(*a'*.) Ends. Arrangement by form of transition from rectangle to round, beginning with the more gradual transitions.

2327. Uncleaned. Length, 0.121 m. Thickness, 0.0043 m. and less. Diameter of tip, 0.0025 m.

2328. Uncleaned. Bent. Length, 0.228 m. Thickness, 0.004 m. Diameter of tip, 0.003 m. Transition plain but not abrupt.

2329. Uncleaned. Length, 0.154 m. Thickness, 0.004 m. and less. Rectangle swells at transition. Diameter of tip, 0.0013 m.

2330. Uncleaned. Length, 0.126 m. Rectangle, 0.005 m. sq. and less. Transition plain.

(*b'*.) Both ends lacking (corresponding to *Class a*, *Addenda*, *c'*).

2331. Uncleaned. Length, 0.147 m. Thickness, 0.0012 m.

2332. Uncleaned. Length, 0.222 m. Thickness, 0.0013 m. and less.

2333. Length, 0.147 m. Thickness, 0.0018 m. and less.

2334. From back of South Building. Length, 0.058 m. Thickness, 0.0028 m. and less.

2335. Length, 0.124 m. Thickness, 0.0029 m. and less.

2336. Bent like a hook. Length, 0.213 m. Thickness, 0.0039 m. and less. Near lower part of rectangle five lines close together.

2337. Length, 0.381 m. Thickness, 0.0039 m. and less. Transition gradual.

2338. From south slope. Length, 0.077 m. Thickness, 0.004 m. and less. Transition sharp. Probable traces of three lines of engraving on rectangle just before.

2339. Length, 0.402 m. Thickness, 0.0043 m. and less. Transition gradual.

PLATE CXXVIII.

2340. From West Building. Length, 0.264 m. Thickness, 0.0055 m. and less.

2341. Length, 0.179 m. Thickness, 0.0055 m. and less.

2342. Length, 0.448 m. Thickness, 0.006 m. and less.

2343. Length, 0.205 m. Thickness, 0.006 m. and less.

2344. Length, 0.342 m. Thickness, 0.0065 m. and less.

2345. Length, 0.24 m. Thickness, 0.0075 m. and less.

Discards similar to above: cleaned, fourteen, of which one has three lines of engraving at transition and one comes from West Building; uncleaned, two hundred and twenty-eight. Length and thickness of discards included in catalogued specimens.

The following are composite.

2346. Length, 0.18 m. Thickness, 0.006 m. and less. Gradual transition emphasized by three lines of engraving on rectangle. Into rectangular end is inserted piece, of which length, 0.029 m., thickness, 0.001 m.-0.0025 m. Uncertain whether riveted.

2347. Length, 0.19 m. Thickness, 0.0065 m. and less. In rectangular end, slot for insertion of separate piece of bronze or iron. Length of slot, 0.01 m. Width, 0.0013 m.

2348. Length, 0.24 m. Thickness, 0.0065 m. and less. Rectangle has three lines of engraving at transition. In end of rectangle is inserted bronze piece, of which length, 0.029 m., width, 0.006, thickness, 0.001 m.-0.003 m., increasing toward end of shaft. Fastened by two rivets.

Class γ . Part of shaft a twisted rectangular bar. (Fragments only.)

Group i. Rectangular (plain and twisted) and round.

(*a'*.) Points.

2349. Much bent. Length, about 0.30 m. Thickness, 0.003 m. and less. Tapers gradually to point.

(*b'*.) Blades.

2350. Length, 0.047 m. Thickness, 0.002 m. and less. Width of blade, 0.004 m.

(c'.) No end preserved.

2351. Uncleaned. Length, 0.253 m. Thickness, 0.0025 m. and less.

2352. Length, 0.113 m. Thickness, 0.0034 m. and less.

2353. From back of South Building. Length, 0.215 m. Thickness, 0.003 m. and less.

2354. Condition poor. Length, 0.305 m. Thickness, 0.0045 m. and less. Color reddish.

Discards of (c'): uncleaned, three. Dimensions included in the catalogued specimens.

Group ii. Rectangular (twisted) and round.

2355. Uncleaned. Length, 0.175 m. Thickness, 0.003 m. and less.

Discards: uncleaned, three, of which two are thicker, but all shorter, than No. 2355.

Group iii. Rectangular (plain and twisted).

2356. Uncleaned. Length, 0.057 m. Thickness, 0.0012 m. and less.

2357. Uncleaned. Length, 0.069 m. Thickness, 0.002 m. and less.

2358. Uncleaned. Length, 0.154 m. Thickness, 0.0025 m. and less. One end turned up sharply like a hook.

2359. Length, 0.194 m. Thickness, 0.0035 m. and less.

2360. Uncleaned. Length, 0.262 m. Thickness, 0.0045 m. and less.

Discards: uncleaned, seven, the dimensions of which are included among those of the above catalogued specimens, excepting one which is 0.292 m. in length.

Group iv. Rectangular (twisted).

2361. Uncleaned. Length, 0.078 m. Thickness, 0.0037 m. and less.

Discards: uncleaned, two.

Class δ. Rectangular shaft. (No complete pieces preserved, but some of the ends are probably complete in essential features of shaft.)

(a'.) Points.

2362. From West Building. Length, 0.085 m. Thickness, 0.0006 m. \times 0.0008 m.

2363. Part lost since photograph was made. Present length, 0.307 m. Thickness, 0.001 m. \times 0.0007 m. and less.

2364. Uncleaned. Length, 0.312 m. Thickness, 0.0012 m. \times 0.001 m.

2365. Length, 0.19 m. Thickness, 0.0015 m. \times 0.001 m. Reddish. Flexible.

2366. Length, 0.192 m. Thickness, 0.0024 m. \times 0.0022 m. Reddish. Flexible.

Discards: cleaned, one; uncleaned, five. Dimensions included in above specimens.

(b'.) Blades.

2367. From back of South Building. Length, 0.088 m. Thickness, 0.003 m. \times 0.0022 m. Section near centre would be diamond-shaped. Square toward blade. Width of blade, 0.003 m. Decrease in thickness toward broken end, which is 0.002 m. \times 0.0018 m., may indicate that object was a medical instrument.

2368. Uncleaned. Length, 0.331 m. Thickness, 0.0025 m. \times 0.002 m. and less. Width of blade, 0.0032 m.

2369. Condition poor. Length, 0.145 m. Thickness, 0.0033 m. \times 0.0029 m. near centre; decreases toward ends. Width of blade, 0.0045 m. (at beginning, 0.0033 m.; at end, 0.0037 m.).

Discards: uncleaned, four.

(c'.) Ends gone.

2370. Length, 0.101 m. Thickness, 0.0009 m. \times 0.0008 m. and less.

2371. Length, 0.066 m. Thickness, 0.001 m. \times 0.0008 m. and less.

2372. Uncleaned. Length, 0.193 m. Thickness, 0.0011 m. \times 0.0009 m. and less.

2373. Length, 0.206 m. Thickness, 0.0014 m. \times 0.0009 m. and less.

2374. From back of South Building. Length, 0.046 m. Thickness, 0.0015 m. \times 0.0012 m. and less.

2375. From back of South Building. Length, 0.112 m. Thickness, 0.0015 m. and less.

2376. From south slope. Length, 0.148 m. Thickness, 0.0015 m. and less.

2377. From West Building. Length, 0.135 m. Thickness, 0.0019 m. \times 0.0016 m. and less.

2378. Length, 0.133 m. Thickness, 0.0019 m. \times 0.0016 m. (diamond section). Reddish. Flexible.

2379. Length, 0.141 m. Thickness, 0.0019 m. \times 0.0016 m. and less. Section diamond-shaped.

2380. Length, 0.132 m. Thickness, 0.002 m. \times 0.0016 m. and less. Section diamond-shaped.

2381. Length, 0.12 m. Thickness, 0.002 m. \times 0.0018 m. Reddish. Section diamond-shaped.

2382. Length, 0.226 m. Thickness, 0.002 m. and less. Section diamond-shaped.

2383. Length, 0.065 m. Thickness, 0.0026 m. \times 0.002 m. Section diamond shaped.

2384. Length, 0.128 m. Thickness, 0.003 m. and less.

2385. Uncleaned. Length, 0.407 m. Thick-

ness, 0.0035 m. \times 0.004 m. and less. Section diamond-shaped.

2386. Length, 0.263 m. Thickness, 0.0035 m. \times 0.0038 m.

2387. Length, 0.177 m. Thickness, 0.004 m. and less.

2388. Length, 0.178 m. Thickness, 0.004 m. \times 0.0037 m.

2389. Length, 0.2035 m. Thickness, 0.006 m. \times 0.0025 m. Sides irregular and covered with small concave surfaces.

2390. From West Building. Length, 0.086 m. Thickness, 0.006 m. square. Slight groove near one end.

2391. Length, 0.062 m. Thickness, 0.0065 m. \times 0.007 m. and less.

Discards: cleaned, nineteen; uncleaned, two hundred and thirty, the dimensions of which are included in those of the above specimens.

Type b. One knob.

FORM 1. KNOB A GRADUAL SWELLING OF SHAFT. SIDES OF KNOB ROUNDED.

Class a. Shaft partly round and partly rectangular (the portions next to knob being rectangular).

Both ends pointed.

2392. Length, 0.15 m. Thickness of shaft, 0.001 m. and less. Centre of knob to nearest end, 0.03 m. Thickness of knob, 0.002 m.

2393. Bent. Length, 0.208 m. Thickness of shaft, 0.0013 m. and less. Centre of knob to nearest end, 0.029 m. Thickness of knob, 0.0024 m.

Discards: uncleaned and in poor condition, two.

Addenda. Incomplete pieces.

(a') Ends.

2394. Uncleaned. Length, 0.193 m. Size of shaft, 0.0018 m. \times 0.0015 m. and less. Centre of knob to point, 0.136 m. Thickness of knob, 0.003 m.

2395. Uncleaned. Bent. Length, 0.196 m. Shaft, 0.0017 m. \times 0.0019 m. and less. Centre of knob to point, 0.0875 m. Thickness of knob, 0.003 m.

Discards of (a'): uncleaned, two. Dimensions included in preceding.

(b') Both ends lacking.

2396. Length, 0.094 m. Shaft, 0.0013 m. and less. Thickness of knob, 0.0025 m. Reddish.

2397. Uncleaned. Length, 0.215 m. Shaft, 0.0018 m. \times 0.0015 m. and less. Thickness of knob, 0.0035 m.

2398. Uncleaned. Length, 0.205 m. Shaft,

0.002 m. \times 0.0017 m. and less. Thickness of knob, 0.0032 m.

Discards of (b'): cleaned, one; uncleaned, twelve. Greatest dimensions: length, 0.41 m.; width of shaft, 0.003 m.; thickness of knob, 0.006 m. (all these measurements from different objects).

Class β . Similar to Class a, but with transition from rectangular to round part of shaft emphasized. Cf. Nos. 2327 ff.

Ends pointed. Arrangement by development of transition.

2399. Length, 0.177 m. Shaft, 0.0015 m. square at transition, elsewhere less. Centre of knob to short end, 0.0425 m. Thickness of knob, 0.0027 m. Transition plain, but not sharp.

2400. Uncleaned. Length, 0.406 m. Shaft, 0.0014 m. \times 0.0015 m. and less. Centre of knob to nearest point, 0.062 m. Between this point and knob, slight but sharp transition. Transition between the other point and knob gradual. Thickness of knob, 0.0028 m.

Addenda. Incomplete pieces.

(a.) Points. Arrangement by form of transition.

2401. Uncleaned. Length, 0.307 m. Shaft generally 0.0013 m. \times 0.0015 m. Centre of knob to nearest point, 0.098 m. Principal transition, which is plain, but not abrupt, on this end. On long end shaft thickens to 0.0018 m. at about 0.02 m. from knob and again to about same size just before transition. Transition gradual on this end. Thickness of knob, 0.0035 m.

Discards of (a'): uncleaned, one.

(b') Blunted ends, perhaps not pointed originally. More developed than preceding number.

2402. From back of South Building. Length, 0.10 m. Shaft, 0.003 m. \times 0.0018 m. and less. Centre of knob to end, 0.071 m. Thickness of knob, 0.0042 m. Transition abrupt and accompanied by thickening of shaft.

2403. Length, 0.102 m. Shaft, 0.002 m. \times 0.0019 m. and less. Centre of knob to tip, 0.082 m. Thickness of knob, 0.005 m. Transition fully developed and accompanied by increase of shaft to 0.0025 m. square.

Class γ . Similar to Class a, but with a portion of the rectangle twisted. (Fragments only.)

Points.

2404. Uncleaned. Bent. Length, 0.40 m. Thickness of knob, 0.004 m. Shaft, 0.0017 m. \times 0.0013 m. Centre of knob from point, 0.1525 m. Principal transition on this end prepared by

increase in shaft to 0.002 m. \times 0.0019 m. On other side of knob transition more gradual. Rectangular part of shaft twisted before principal transition and in middle of other side. Probably nearly complete.

Discards (both points gone) : uncleaned, two.

Class δ . Shaft partly round and partly rectangular, the portions next to knob being round. (No complete specimens.)

Blade end.

2405. Uncertain how much gone from broken end, but there were probably no more knobs. Bent. Length, 0.338 m. Thickness of knob, 0.0075 m. Thickness of shaft, about 0.003 m. Centre of knob to end of blade, 0.177 m. Abrupt transition on this end, before which thickness of shaft increases to 0.0038 m. \times 0.004 m. On same end near knob, five encircling lines of engraving. They serve to emphasize the transition from round to rectangle.

The following fragment, if complete, would perhaps belong to a different class.

2406. Both ends gone. Length, 0.136 m. Thickness of knob, 0.01 m. Thickness of shaft, 0.005 m.

Class ϵ . Shaft rectangular. (Fragments only.)

(*a'*.) Points.

2407. Uncleaned. Length, 0.256 m. Thickness of knob, 0.0032 m. Shaft, 0.0013 m. square and less. Centre of knob to point, 0.16 m.

2408. Length, 0.099 m. Thickness of knob, 0.0035 m. Shaft, 0.0015 m. \times 0.0013 m. Centre of knob from point, 0.0755 m.

*Discards of (*a'*)* : uncleaned one.

(*b'*.) Both ends lacking.

2409. Length, 0.084 m. Thickness of knob, 0.003 m. Width of sides, 0.0015 m. and less.

2410. Uncleaned. Length, 0.20 m. Thickness of knob, 0.0027 m. Shaft, 0.0017 m. \times 0.0019 m. and less.

2411. Uncleaned. Length, 0.093 m. Thickness of knob, 0.004 m. Shaft, 0.0025 m. square and less.

*Discards of (*b'*)* : cleaned, one; uncleaned, six.

Addenda to FORM 1. Fragments.

(*a'*.) Similar to *Class ϵ* , but with shaft partly twisted. Both ends gone.

2412. Length, 0.15 m. Thickness of knob, 0.0065 m. Shaft, 0.0035 m. \times 0.003 m. and less.

(*b'*.) Fragment with knob at one end. Adjacent shaft first rectangular then angularly elliptical. Both ends gone.

2413. Length, 0.095 m. Thickness of knob, 0.0035 m. Shaft, 0.0016 m. square near knob, afterwards 0.0023 m. \times 0.008 m. - 0.0033 m. \times 0.0023 m. Reddish.

FORM 2. KNOB AS IN FORM 1, BUT SIDES ARE ANGULAR.

Class α . Shaft partly round and partly rectangular, the portions next to knob being rectangular. (No complete pieces.)

(*a'*.) Points.

2414. Uncleaned. Length, 0.202 m. Knob, 0.003 m. square. Shaft, 0.0013 m. and less. Centre of knob, 0.14 m. from point.

2415. Uncleaned. Length, 0.185 m. Knob, 0.0025 m. square. Shaft, 0.002 m. and less. Centre of knob to point, 0.135 m.

2416. Uncleaned. Length, 0.454 m. Knob, 0.0027 m. square. Shaft, 0.0018 m. and less. Centre of knob to point, 0.3985 m.

2417. Uncleaned. Length, 0.255 m. Knob, 0.003 m. square. Shaft, 0.002 m. square and less. Centre to point, 0.108 m. Cf. No. **2680**.

*Discards of (*a'*)* : uncleaned, two.

(*b'*.) Both ends lacking.

2418. Uncleaned. Length, 0.198 m. Knob, 0.0022 m. \times 0.0012 m. Shaft, 0.0017 m. \times 0.001 m.

2419. Uncleaned. Length, 0.222 m. Knob, 0.0028 m. \times 0.003 m. Shaft, 0.002 m. \times 0.0022 m. and less.

2420. Uncleaned. Length, 0.403 m. Knob, 0.005 m. square. Shaft, 0.003 m. \times 0.0028 m. and less.

*Discards of (*b'*)* : cleaned, one; uncleaned, five.

Class β . Similar to Class α , but with more developed transition from rectangular part of shaft to round. (No complete specimens.)

(*a'*.) Point.

2421. Uncleaned. Length, 0.271 m. Knob, 0.0027 m. square. Shaft, 0.0022 m. \times 0.002 m. and less. Centre of knob, 0.114 m. from point. Principal transition on this end. Plain but not abrupt. No swelling. On the other side of knob, gradual transition.

(*b'*.) Ends.

2422. Uncleaned. Length, 0.333 m. Knob, 0.0027 m. \times 0.0029 m. Shaft, 0.002 m. \times 0.0017 m. and less. Shaft on one side of knob rectangular to end (0.06 m. from centre of knob). On the other side, plain transition to round at 0.14 m. from centre of knob.

2423. Uncleaned. Length, 0.30 m. Knob,

0.0038 m. square. Shaft, 0.0028 m. \times 0.003 m. and less. Short portion at one end entirely rectangular. On the other side, plain but easy transition at 0.06 m. from centre of knob.

2424. Uncleaned. Length, 0.263 m. Knob, 0.0038 m. \times 0.0045 m. Shaft, 0.0035 m. and less. Gradual transitions.

Class γ . Similar to Class α , but with rectangular part partially twisted.

Point.

2425. Uncleaned. Condition poor. Length, 0.222 m. Knob, 0.0022 m. \times 0.002 m. Shaft, 0.0016 m. and less. Centre of knob, 0.15 m. from point. Gradual transition. Shaft mostly twisted on both sides of knob.

Class δ . Shaft rectangular.

Only pointed ends.

2426. Probably about complete. Length, 0.089 m. Knob, 0.0025 m. \times 0.0007 m. Shaft, 0.002 m. \times 0.0007 m. and less. Centre of knob to one end, 0.065 m. Both ends dull. Color reddish.

2427. Uncleaned. Length, 0.155 m. Knob, 0.0025 m. square. Shaft, 0.0017 m. square. Centre of knob to one end, 0.0735 m.

The following are incomplete.

(*a'*.) Points.

2428. Length, 0.455 m. Knob, 0.002 m. square. Shaft, 0.0013 m. square and less. Centre of knob to point, 0.40 m.

2429. Nearly complete. Length, 0.112 m. Knob, 0.002 m. \times 0.0017 m. Shaft, 0.0016 m. \times 0.0015 m. and less. Centre of knob to point, 0.082 m.

2430. Length, 0.108 m. Knob, 0.0025 m. \times 0.0024 m. Shaft 0.0015 m. \times 0.0017 m. Centre of knob to point, 0.0027 m.

(*b'*.) Both ends lacking.

2431. Uncleaned. Length, 0.142 m. Knob, 0.0016 m. \times 0.0017 m. Shaft, 0.001 m. and less.

2432. Uncleaned. Length, 0.097 m. Knob, 0.003 m. \times 0.0022 m. Shaft, 0.0012 m. square and less.

2433. Uncleaned. Length, 0.099 m. Knob, 0.0025 m. \times 0.0022 m. Shaft, 0.002 m. \times 0.0017 m. and less.

2434. Length, 0.104 m. Knob, 0.0034 m. Shaft, 0.0025 m. square and less.

2435. Length, 0.207 m. Knob, 0.0055 m. \times 0.005 m. Shaft, 0.004 m. \times 0.0038 m. and less. The following number is more developed.

2436. Uncleaned. Length, 0.153 m. Knob, 0.0035 m. \times 0.0033 m. Shaft, 0.0024 m. square.

*Discards of (*b'*) : uncleaned, four.*

FORM 3. KNOB TWO CONVEX OR STRAIGHT SURFACES WITH ROUNDED SIDES WHICH MEET WITH OR WITHOUT FORMING AN ANGLE. SHAFT CUT DOWN AT EITHER END OF KNOB, AND AT THESE POINTS USUALLY EMPHASIZED, SUCH EMPHASIS IN THE MORE DEVELOPED SPECIMENS TAKING THE FORM OF ONE OR MORE RINGS.

Owing to the lack of sharp distinctions between the specimens of greater and less degree of development, it seems best to group all the examples together according to the degree of development of the knob and its appurtenances.

Class α . Shaft partly rectangular and partly round, the part next to knob being rectangular.

(*a'*.) Ends pointed.

2437. Uncleaned. Length, 0.0325 m. Knob, 0.003 m. Shaft, 0.0014 m. \times 0.0018 m. at knob, elsewhere less. Centre of knob to one point, 0.195 m. Transitions gradual, that on short end being the more marked.

2438. Bent. Length, 0.127 m. Knob, 0.0025 m. Shaft, 0.0018 m. \times 0.0023 m. Centre of knob from one point, 0.0835 m. Transition gradual. Short end rectangular to point.

2439. Uncleaned. Length, 0.467 m. Knob, 0.0034 m. Shaft, 0.002 m. \times 0.0018 m. Centre of knob to nearest end, 0.12 m. Transitions gradual.

2440. From back of South Building. Ends blunted. Length, 0.401 m. Knob, 0.0057 m. Shaft, 0.0022 m. \times 0.0023 m. Centre of knob to one end, 0.227 m. Transition on this side plainly marked. The other side is rectangular to within 0.031 m. of end.

2440 a. Uncleaned. Length, 0.133 m. Knob, 0.0055 m. Shaft, 0.0027 m. \times 0.003 m. and less. Centre of knob to nearest end, 0.051 m. This end rectangular.

(*b'*.) Points (enough of shaft preserved to render one-knob type certain).

Slightly developed, oblong knobs.

2441. Roughly coiled. Length, 0.438 m. Knob, 0.0035 m. Shaft, 0.0015 m. and less. Centre of knob to point, 0.088 m. Transitions gradual.

2442. Uncleaned. Light green patina. Length, 0.422 m. Knob, 0.0045 m. Shaft, 0.0025 \times 0.0023 m. Centre of knob to point, 0.14 m. Transitions gradual, that on long end being the more plainly marked.

2443. From south slope. Bent. Length, 0.254 m. Knob, 0.0045 m. Shaft, 0.0028 m. \times 0.0024 m. at knob, elsewhere less. Centre of knob to point, 0.167 m.

2444. Uneleaned. Length, 0.39 m. Knob, 0.006 m. Shaft, 0.0035 m. square near knob, elsewhere less. Transition gradual, but prepared for by slight increase in thickness of shaft.

2444 a. Uneleaned. Length, 0.375 m. Knob, 0.004 m. Shaft, 0.0019 m. square and less. Centre of knob to point, 0.131 m. Transitions gradual, but that on short end accompanied by slight swelling of shaft.

Discards similar to above: uncleaned, two.

The following have more developed knobs, with a tendency to diminish their length.

2445. From West Building. Length, 0.435 m. Knob, 0.0028 m. Shaft, 0.0015 m. (at knob, 0.0018 m.). Centre of knob to point, 0.12 m. Transitions gradual, that on short end being preceded by slight swelling of shaft.

2446. Length, 0.222 m. Knob, 0.0035 m. Shaft, 0.002 m. square (at principal transition), elsewhere less. Centre of knob to point, 0.118 m. Transition gradual, but preceded by above swelling. The other transition is gradual.

2447. Length, 0.208 m. Knob, 0.004 m. Shaft, 0.0025 m. square and less. Short end of shaft rectangular, long end has gradual transition. Centre of knob to point, 0.176 m.

2448. Uneleaned. Length, 0.305 m. Knob, 0.0075 m. Shaft, 0.0025 m. square and less. Centre of knob to point, 0.112 m. Transition plain, but not abrupt. From transition to point, engraved screw-threading. On other side of knob, shaft has gradual transition.

Discards similar to above (Nos. 2445-2448): uncleaned, one.

(c'.) Points which do not include enough of shaft to make it certain that there was one knob only.

Knob oblong. Partially developed.

2449. Uneleaned. Length, 0.42 m. Knob, 0.004 m. Shaft, 0.002 m. \times 0.0017 m. and less. Transition gradual.

2450. Uneleaned. Length, 0.225 m. Knob, 0.005 m. Shaft, 0.0025 m. square and less. Advanced transition with preliminary swelling, connecting ring and round, blunt, ornamented terminal piece, engraved with spread screw-threading. This end is distant 0.0865 m. from centre of knob. On the other side of knob, gradual transitions.

Discards with knobs similar to Nos. 2449 f.: uncleaned, one.

Short partially developed knob, resembling ring.

2451. Uneleaned. Length, 0.156 m. Knob, 0.003 m. Shaft, 0.0025 m. \times 0.0024 m. and less.

Short developed knobs with tendency to angularity.

2452. Point blunted. Length, 0.133 m. Knob, 0.0045 m. Shaft, 0.002 m. \times 0.0025 m. and less. Gradual transitions.

2453. Length, 0.207 m. Knob, 0.005 m. Shaft, 0.0028 m. \times 0.003 m. and less. Short end rectangular, the other has gradual transition. Zigzag on shaft at both sides of knob.

2454. Length, 0.153 m. Knob, 0.0045 m. Shaft, 0.002 m. \times 0.0025 m. and less. Plain but not abrupt transition, with slight increase in thickness of shaft.

2455. Length, 0.219 m. Knob, 0.0085 m. Shaft, 0.0045 m. square and less. Preserved transition gradual but plain.

Discards similar to above (Nos. 2452 ff.): uncleaned, seven.

(d'.) Complete pieces with blunt ends. Developed knobs.

2456. Uneleaned. Length, 0.3275 m. Knob, 0.0055 m. Shaft, 0.0027 m. \times 0.0029 m. at knob and main transition, elsewhere less. Ends plain, but one is preceded by a groove. Diameter, 0.0017 m. Distance from centre of knob, 0.181 m. Transition plain but not abrupt. The other transition is gradual.

(e'.) Blunt end with insufficient shaft to make certain that there was one knob only.

2457. Length, 0.249 m. Knob, 0.009 m. Shaft, 0.0045 m. square and less. Preserved transition plain but gradual.

2457 a. Length, 0.3855 m. Knob, 0.01 m. At either side, ring. Shaft, 0.0038 m. square and less. Centre of knob to end, 0.231 m. Groove at end. Gradual transitions.

2457 b. Condition poor. One rivet lost. Length, 0.114 m. Knob, 0.0095 m. Shaft, 0.0075 m. \times 0.008 m. at knob, elsewhere less. Centre of knob to end, 0.0895 m. Transition plain but not abrupt. Marked with two (or perhaps three) grooves. Groove at end, forming sort of cap. This end of shaft spliced with blade 0.036 m. in length and 0.0035 m.-0.001 m. in thickness, which is inserted and held by two

rivets. Possibly not a spit, but formally similar.

Discards of (e') : one, uncleaned.

(f'.) Ornamented blunt end with advanced transition.

2458. Nearly complete. Length, 0.265 m. Knob, 0.006 m. Shaft, 0.004 m. \times 0.0035 m. and less. Centre of knob to short end, 0.069 m. Transition accompanied by increase in thickness and by disk-ring. Terminal piece ornamented with screw-threading and a convex surface. On the other side of knob, gradual transition. Might be taken as a straight pin of **Type k**. Seems better to regard it as a mixed or transitional form midway between pin and spit, the solid disk corresponding to the separable disk still preserved on certain spits, e. g. in the Carapanos collection (from Dodona.)

(g'.) Ornamented blunt end with advanced transition. (Original length and number of knobs uncertain.)

2459. Uncleaned. Length, 0.0815 m. Knob, 0.007 m. Shaft, 0.003 m. square and less. Centre of knob to preserved end, 0.06 m. Transition followed by terminal piece with screw-threading.

2460. Uncleaned. Length, 0.0915 m. Knob, 0.008 m. Shaft, 0.004 m. \times 0.035 m. at transition, elsewhere less. Centre of knob to end, 0.0705 m. Ring at transition. Just before end, convex surface.

2461. Uncleaned. Length, 0.067 m. Knob, 0.0075 m. Shaft, 0.0035 m. and less. Centre of knob to end, 0.0455 m. Short terminal end ornamented with convex surfaces and screw-threading.

2462. Uncleaned. Length, 0.1535 m. Knob, 0.008 m. Shaft, 0.005 m. square and less. Centre of knob to end, 0.1435 m. Ring at transition. Round part of end covered with fine threading.

Discard of (g') : uncleaned, two.

(h'.) Similar to (g'), but with terminal more developed. (In no case is original number of knobs certain.)

2463. Length, 0.097 m. Knob, 0.0105 m. Slight ring at either side. Shaft, 0.005 m. square at transition, elsewhere less. Centre of knob to end, 0.079 m. Ring after transition.

(i'.) Similar to (h'), but with highly developed mass of rings taking the place of transition. (Original number of knobs uncertain.)

2464. Length, 0.071 m. Knob, 0.012 m. At either side, two rings. Shaft, 0.0055 m. and less. Centre of knob to end, 0.0675 m. Sides of rectangular part of shaft ornamented with zigzag framed in five lines.

(j'.) Ends gone. No rings at side of knob.

Oblong rounded knobs. (Number of knobs uncertain.)

2465. Uncleaned. Patinated light green. Length, 0.211 m. Knob, 0.0024 m. Shaft, 0.0017 m. square. Gradual transition.

2466. Uncleaned. Length, 0.192 m. Knob, 0.0034 m. Shaft, 0.0018 m. square and less. Gradual transition.

2467. Uncleaned. Length, 0.295 m. Knob, 0.0075 m. Shaft, 0.003 m. square and less. Transition gradual. Size of knob and shaft disproportionate.

2468. Length, 0.252 m. Knob, 0.009 m. Shaft, 0.007 m. square next to knob, elsewhere less. On one side of knob, rectangular stub; on the other, nearly complete long end with gradual transition. Next to knob on short end, five or six faint grooves, beyond which a few circles. On long end, a single groove, after which faint circles, of which some are dotted, others crossed, and the remainder plain.

Discards similar to above (Nos. 2465 ff.): uncleaned, ten.

Short rounded knobs.

2469. Uncleaned. Length, 0.158 m. Knob, 0.003 m. Shaft, 0.002 m. square and less. Gradual transition.

2470. Uncleaned. Length, 0.32 m. Knob, 0.004 m. Shaft, 0.003 m. square and less. Gradual transition.

Discards similar to above (Nos. 2469 f.): uncleaned, one.

Oblong knobs, the sides of which, convex or straight, meet at a sharp or slightly rounded angle.

2471. Uncleaned. Length, 0.12 m. Knob, 0.0038 m. Shaft, 0.002 m. square at knob, elsewhere less. Gradual transition.

2472. Length, 0.09 m. Knob, 0.005 m. Shaft, 0.0025 m. square and less. Transition plain but gradual.

2473. Length, 0.132 m. Knob, 0.0057 m. Shaft 0.003 m. square and less. Transition gradual.

2474. Length, 0.181 m. Knob, 0.007 m. Shaft, 0.0037 m. square at knob, elsewhere less.

Gradual transition emphasized by two grooves. Rectangular part ornamented with broad undulating zigzag.

2475. From back of South Building. Length, 0.301 m. Knob, 0.008 m. Shaft, 0.0038 m. square at knob, elsewhere less. Transition, grooves, and zigzag as in No. **2474**.

2476. Length, 0.366 m. Knob, 0.008 m. Shaft, 0.004 m. square and less. Transitions gradual.

PLATE CXXIX.

2477. Length, 0.772 m. Knob, 0.013 m. Shaft, 0.0075 m. \times 0.007 m. and less. Gradual transition.

Discards similar to above (Nos. 2471 ff.): uncleaned, twelve.

Short, angular knobs, similar to preceding, but shorter.

2478. Length, 0.105 m. Knob, 0.0034 m. Shaft, 0.0018 m. square at knob, elsewhere less. Gradual transition. Original number of knobs uncertain.

2479. Bent, probably purposely, into leaf-shaped design. Length, 0.395 m. Length as bent, 0.085 m. Width, 0.045 m. Knob, 0.005 m. Shaft, 0.0025 m. \times 0.0023 m. at knob, elsewhere less. Transitions gradual, that on shorter end being plainer.

2480. Uncleaned. Length, 0.395 m. Knob, 0.006 m. Shaft, 0.0024 m. square at knob, elsewhere less. Gradual transition.

2481. Length, 0.28 m. Knob, 0.007 m. Shaft, 0.0048 m. \times 0.005 m. and less.

2482. Length, 0.085 m. Knob, 0.0127 m. Shaft, 0.006 m. square at knob, 0.007 m. at transition, elsewhere less.

Discards similar to above (Nos. 2478 ff.): uncleaned, nineteen.

(*k'*.) Ends gone. Shaft has raised rings adjoining knob.

Rounded knobs with single ring at either side.

The following may also be regarded as straight pins of **Type k**. Cf. No. 2458.

2483. Length, 0.077 m. Knob, 0.0125 m. Shaft, 0.0035 m. \times 0.0039 m. and less. Plain, slightly abrupt transition preceded by three engraved lines. On same side (that of which the more is preserved), zigzag in frame. Traces of zigzag also on other side. Uncertain how many knobs originally.

The following two are of doubtful classification.

2484. Length, 0.219 m. Knob, 0.01 m. Shaft,

0.003 m. \times 0.0035 m. and less. Short end terminates in convex surface and cap. On longer side, gradual transition. Probably had only one knob.

2485. Length, 0.117 m. Knob, 0.0095 m. Shaft, 0.0035 m. square and less. On one side of knob, ornamented terminal end, on the other, rather abrupt transition. Traces of fine zigzag on shaft at either side of knob. Probably substantially complete.

Discards similar to No. 2483: cleaned, one; uncleaned, thirteen. Similar to No. **2485:** uncleaned, one. Number of knobs in no case certain. Majority probably had but one knob.

Rounded knob with double ring at either side. (Original number of knobs uncertain.)

2486. Length, 0.16 m. Knob, 0.011 m. At either side, grooved ring. On one side of knob, short stub (0.007 m. \times 0.003 m.), into which was inserted piece held by a rivet. On the other side, easy transition with one or two grooves. Rectangular part ornamented with double row of diamond hatching inclosed in frame. Belongs here formally, though not certain that it was a spit.

Angular knobs, short or slightly elongated, with a single ring at either side. (Original number of knobs uncertain.)

2487. Length, 0.171 m. Knob, 0.0105 m. Shaft, 0.0055 m. square and less. On longer preserved side, abrupt transition with three lines of engraving.

2488. From West Building. Length, 0.38 m. Knob, 0.0085 m. Shaft, 0.0045 m. \times 0.005 m. at knob, elsewhere less. Transition plain, but gradual.

2489. Length, 0.4405 m. Knob, 0.014 m. Shaft, 0.0057 m. square and less. Transition gradual.

2490. From south slope. Length, 0.1355 m. Knob, 0.01 m. Shaft, 0.0049 m. square and less. On longer preserved side, easy transition emphasized by three rings engraved at beginning of round part.

Discards similar to above (Nos. 2487-2490): uncleaned, six.

Oblong slightly angular knobs, with a single wide flat ring at either end. Rings rectangular. (Probably with but one knob originally.)

2491. Length, 0.234 m. Knob, 0.005 m.

Shaft, 0.0035 m. \times 0.0031 m. and less. Longer preserved side has gradual transition. Probable traces of fine zigzag near knob.

2492. Found probably at northeast corner of main terrace near or under Cyclopean wall in 1893. Length, 0.578 m. Knob, 0.007 m. Shaft, 0.0038 m. \times 0.004 m. and less. Gradual transitions. On longer preserved side, thickening of shaft (centre from centre of knob, 0.114 m.) to 0.0045 m. square. Probably transitional to two-knob type.

Similar rings, but knobs are more angular, and are shorter in proportion to thickness.

2493. Length, 0.274 m. Knob, 0.01 m. Shaft, 0.0057 m. square and less. Preserved short rectangular stub on one side of knob ornamented with cross inclosed at ends by a single groove. Longer piece on other side of knob with gradual transition emphasized by three grooves. On this side, cross inclosed by double grooves at ends. Uncertain how many knobs originally.

Angular knobs with several rings at sides.

2494. Length, 0.222 m. Knob, 0.0085 m. Shaft, 0.003 m. square and less. On one side of knob, three rings, on the other, an uncertain number and gradual transition. Could be regarded as a straight pin of **Type k**. Uncertain how many knobs originally.

2495. Length, 0.273 m. Knob, 0.0155 m. Shaft, 0.006 m. square and less. Single ring at each side of knob. On one side, coarse zigzag, on the other, gradual transition, with four grooves immediately preceding. Between knob and transition, another group of about four similar grooves.

Irregularly rounded rather flat knob with block-like rings, partially grooved, at either side.

2496. Length, 0.155 m. Knob, 0.007 m. Shaft, 0.0035 m. \times 0.004 m. at transition, elsewhere less. Transition rapid, but not abrupt.

Addendum to Class a. It is uncertain whether the following was not a straight pin.

2497. Length, 0.166 m. Knob, 0.0105 m. Shaft, 0.0026 m. \times 0.003 m. and less. On longer stub, gradual transition, marked by one or two grooves. Rectangle ornamented with zigzag of bent lines.

Class β . Shaft rectangular on both sides of knob. Long end partly twisted.

The following two numbers, being ends and

nearly complete, include also a rounded portion beyond rectangle (or twisted rectangle). Angular knobs.

(a'.) Pointed end.

2498. From West Building. Length, 0.42 m. Knob, 0.0064 m. Shaft, 0.0035 m. \times 0.003 m. and less. Centre of knob from point, 0.082 m. Transition gradual.

(b'.) Blunt end.

2499. Uneleaned. Length, 0.401 m. Knob, 0.007 m. Shaft, 0.003 m. \times 0.0035 m. at knob, elsewhere less. Centre of knob to end, 0.158 m. Slight eap at end. Gradual transitions.

Discards: uneleaned, three. These have no ends preserved, and, probably in consequence thereof, no round part.

Class γ . Shaft rectangular. (In no case is original number of knobs certain.)

(a'.) Points.

Oblong rounded knob. No rings.

2500. Uneleaned. Length, 0.257 m. Knob, 0.0037 m. Shaft, 0.0019 m. \times 0.0022 m. and less. Centre of knob to point, 0.13 m.

2501. Length, 0.101 m. Knob, 0.0037 m. Shaft, 0.0025 m. \times 0.0027 m. and less. Centre of knob to point, 0.09 m.

Similar, but with shorter knob.

2502. Length, 0.128 m. Knob, 0.0039 m. Shaft, 0.003 m. \times 0.028 m. and less. Centre of knob to point, 0.113 m.

Similar, but with angular knob.

2503. Uneleaned. Length, 0.186 m. Knob, 0.0075 m. Shaft, 0.0035 m. \times 0.003 m. and less. Centre of knob to point, 0.087 m.

Discard similar to above (No. 2503): uneleaned, one.

(b'.) Blade end. (Original number of knobs uncertain.)

2504. Uneleaned. Length, 0.141 m. Knob, 0.005 m. Nearly rectangular. Shaft, 0.003 m. and less. Centre of knob to end of blade, 0.048 m. Width of blade, 0.0055 m.

The following doubtful piece is put here for convenience.

2505. Uneleaned. Length, 0.065 m. Knob, 0.0135 m. Shaft, 0.0048 m. \times 0.0045 m. Centre of knob to edge of blade, 0.0585 m. On same side next to knob, ring rising abruptly from shaft, perhaps transitional to FORM 4. Width of blade, 0.0095 m.

(c'.) Ends gone. Shaft plain at ends of knob.

Rounded knobs. Oblong.

2506. Length, 0.042 m. Knob, 0.0027 m. Shaft, 0.0015 m. square and less.

2506 a. Uncleaned. Length, 0.143 m. Knob, 0.0036 m. Shaft, 0.002 m. \times 0.0018 m. and less except at 0.11 m. from knob, where it swells to 0.002 m. \times 0.0025 m., probably to mark the commencement of a terminal end. This piece is somewhat doubtful.

2507. Uncleaned. Length, 0.114 m. Knob, 0.003 m. Shaft, 0.0025 m. \times 0.0027 m. and less.

Discards similar to above (Nos. 2506 ff.): uncleaned, two.

Rounded knobs. Short.

2508. Uncleaned. Length, 0.057 m. Knob, 0.002 m. Shaft, 0.0018 m. square and less.

2509. Uncleaned. Length, 0.057 m. Knob, 0.004 m. Shaft, 0.0027 m. and less.

2510. Uncleaned. Length, 0.2105 m. Knob, 0.0045 m. Shaft, 0.0025 m. square next to knob, elsewhere less.

Discards similar to above (Nos. 2508 f.): uncleaned, two.

Angular oblong knobs.

2511. Length, 0.1125 m. Knob, 0.0037 m. Shaft, 0.0016 m. \times 0.002 m. and less.

2512. Uncleaned. Length, 0.108 m. Knob, 0.004 m. Shaft, 0.0023 m. \times 0.0025 m. and less.

2513. Uncleaned. Length, 0.109 m. Knob, 0.0045 m. Shaft, 0.0018 m. \times 0.0025 m. and less.

2514. Uncleaned. Length, 0.118 m. Knob, 0.006 m. Shaft, 0.0022 m. \times 0.0024 m. at knob, elsewhere less.

2515. Length, 0.066 m. Knob, 0.008 m. Shaft, 0.0038 m. square and less. Longer preserved side has zigzag of bent lines. Could be put under *Class a* (because of softening of corners as though for gradual transition), or under straight pins of **Type k**.

Discards similar to above (Nos. 2511 ff.): uncleaned, ten.

Angular knobs. Shorter.

2516. Length, 0.091 m. Knob, 0.0037 m. Shaft, 0.0023 m. square at knob, elsewhere less.

2517. Length, 0.1275 m. Knob, 0.0037 m. Shaft, 0.0022 m. square and less. Traces of zigzag on longer preserved end near knob.

2518. Length, 0.0975 m. Knob, 0.0027 m. Shaft, 0.0022 m. square at knob, elsewhere about half as large.

2519. Uncleaned. Length, 0.169 m. Knob, 0.0045 m. Shaft, 0.0015 m. \times 0.0019 m. and less.

2520. Uncleaned. Length, 0.188 m. Knob, 0.0045 m. Shaft, 0.0028 m. \times 0.0025 m. and less.

2521. Uncleaned. Length, 0.16 m. Knob, 0.007 m. Shaft, 0.0035 m. \times 0.003 m. and less.

2522. Uncleaned. Length, 0.069 m. Knob, 0.095 m. Shaft, 0.0039 m. \times 0.004 m. Ornamented. Short stub has on all sides dot in circle, preceded by single engraved line next to knob, followed by zigzag. On long stub, single line next to knob, followed by row of dots in circles and dot in double circles.

2523. Length, 0.162 m. Knob, 0.01 m. Shaft, 0.0052 m. \times 0.005 m. and less.

2524. Uncleaned. Length, 0.108 m. Knob, 0.01 m. Shaft, 0.0032 m. square and less.

2525. Uncleaned. Length, 0.221 m. Knob, 0.01 m. Shaft, 0.004 m. \times 0.0045 m. and less.

2526. Uncleaned. Length, 0.123 m. Knob 0.009 m. Shaft, 0.004 m. \times 0.0042 m. and less. Advanced transition. Followed by short, round stub (diameter, 0.003 m.). Traces of zigzag ornament.

2527. Length, 0.11 m. Knob, 0.013 m. Shaft, 0.0075 m. square and less. Shorter stub has broken round surface at end, hence there were probably more knobs than one. Large zigzag of bent lines at both sides of knob.

Discards similar to above (Nos. 2516 ff.): cleaned, one; uncleaned, twenty-seven.

(*d'*.) Ends gone. A single ring at each end of knob.

Rounded knobs. Knobs are oblate or nearly spherical, but with pear-like flattening of sides toward poles.

2528. Uncleaned. Length, 0.084 m. Knob, 0.013 m. Shaft, 0.004 m. square and less. Probably advanced transition on longer stub.

2529. Uncleaned. Length, 0.0545 m. Knob, 0.013 m. Knob and attachments transitional to FORM 5.

Discards similar to above (No. 2528): uncleaned, five.

Angular knobs. Short.

2530. Uncleaned. Length, 0.13 m. Knob, 0.007 m. Shaft, 0.0032 m. \times 0.003 m.

2531. Length, 0.106 m. Knob, 0.012 m. Shaft, 0.0055 m. \times 0.006 m. and less.

2532. Length, 0.044 m. Knob, 0.0135 m. Shaft, 0.0045 m. \times 0.005 m.

Discards similar to above (Nos. 2530 ff.): uncleaned, four.

Class δ . Shaft round next to knob.

(*a'*.) Ends gone. A single light round ring at either side of knob.

Rounded knob.

2533. From West Building. Length, 0.106 m. Knob, 0.011 m. Shaft, 0.003 m. \times 0.0034 m.

(b'.) One end with blade, the other gone. A single heavy round ring at either side of knob.

Oblong slightly developed knob resembling rather a simple convex surface.

2534. Length, 0.43 m. Knob, 0.008 m. \times 0.007 m. Shaft, 0.0065 m. at knob, elsewhere less. Centre of knob to edge of blade, 0.286 m. Width of blade, 0.004 m.

FORM 4. SIMILAR TO FORM 3, BUT SWELLING OF SIDES IS RECTANGULAR. FORM 4 IS TO FORM 2 AS FORM 3 IS TO FORM 1. (No ends preserved.)

Class a. Shaft rectangular and round, the parts next to knob being rectangular.

(a'.) Shaft prominent at ends of knob, but without rings.

2535. Length, 0.1815 m. Knob, 0.0027 m. \times 0.0025 m. Shaft, 0.0023 m. and less. Original number of knobs uncertain. Color reddish.

(b'.) One or more rings at either side of knob.

2536. Uncleaned. Length, 0.1515 m. Knob, 0.0038 m. \times 0.003 m. At either end, single ring. Shaft, 0.0034 m. \times 0.003 m. next to ring, elsewhere less. Longer stub has gradual transition.

The following piece is more advanced, and is transitional to a rectangular form (not represented at Argos), that would correspond to FORM 5 more closely than does FORM 6.

2537. Length, 0.132 m. Knob, 0.005 m. square. Shaft, 0.0035 m. \times 0.003 m. and less. Raised rectangular rings, one at one end of knob and two at the other. Possible trace of zigzag of bent lines on shaft. Original number of knobs uncertain.

Class β . Shaft rectangular. (Original number of knobs uncertain.)

(a'.) Shaft prominent at ends of knob, but without rings.

2538. Uncleaned. Length, 0.144 m. Knob, 0.0028 m. \times 0.003 m. Shaft, 0.0022 m. square and less. This piece probably had no more knobs.

(b'.) A single ring on shaft at either end of knob.

2539. Uncleaned. Length, 0.119 m. Knob, 0.005 m. square. Shaft, 0.0025 m. square and 0.003 m. square next to knob. Long stub increases to 0.0035 m. \times 0.004 m., part of which is oxidation.

FORM 5. SIMILAR TO FORM 3 AS REGARDS SHAPE OF KNOB, BUT THE RING ON SHAFT AT ENDS OF KNOB HAS NOW BECOME AN APPENDAGE TO THE KNOB. KNOB WITH ITS RINGS APPEARS AS SOMETHING SEPARATE FROM SHAFT AND IN MOST CASES IS A SEPARATE PIECE. (There are no complete pieces and in no case is the original number of knobs known.)

Class a. Shaft rectangular and round, the parts next to knob being rectangular.

Ends gone.

2540. Length, 0.339 m. Knob, 0.02 m. It is short, with convex sides. It forms one piece with rings, and is jacketed over the shaft. Shaft, 0.006 m. and less. Gradual transition. Not certain that this piece is a spit.

Class β . Shaft (so far as preserved) rectangular.

(a'.) Point.

2541. Length, 0.108 m. Knob, 0.016 m. With rings forms one piece which is jacketed on over shaft. Shaft, 0.004 \times 0.0043 m. and less.

(b'.) Ends gone.

2542. Length, 0.0525 m. Knob, 0.016 m. With its rings forms a separate piece which is jacketed on. Shaft, 0.007 m. \times 0.0075 m. At short end traces of round stub, 0.0065 m. in diameter.

2543. Length, 0.184 m. Knob, 0.015 m. Uncertain whether it forms a separate piece. Shaft, 0.0045 m. square.

Discards similar to above (Nos. 2542 ff.): uncleaned, three.

FORM 6. ADVANCED RECTANGULAR KNOB WITHOUT RINGS. KNOB RISES SHARPLY FROM SHAFT, WITH WHICH IT FORMS ONE PIECE. (No complete pieces.)

Shaft rectangular (so far as preserved).

Ends gone.

Knob plain.

2544. Uncleaned. Length, 0.13 m. Knob, 0.0041 m. square. Shaft, 0.0028 m. \times 0.003 m. Original number of knobs uncertain.

Knob ornamented.

2545. From West Building. Length, 0.139 m. Knob, 0.006 m. square. Three fine lines across each end inclosing cross, on all four sides. Line of cross double in two places. On one side, fine lines along long edges, one on each edge. Shaft, 0.004 m. square and less. Probably but one knob.

FORM 7. SIMILAR TO FORM 6, BUT KNOB IS DIVIDED BY BROAD GROOVE IN CENTRE WITH SLOPING SIDES. ENDS FALL SHARPLY. IN SPITE OF DIVISION IS ESSENTIALLY ONE KNOB.

Shaft rectangular and round, the parts next to knob being rectangular.

Only one piece, the ends of which are gone, but which probably had but one knob.

2546. Length, 0.537 m. Length of knob, 0.0095 m. + 0.0085 m. Sides, about 0.0055 m. square. Shaft, 0.004 m. \times 0.0045 m. and less. Gradual transitions.

Type c. Two knobs.

FORM 1. KNOB A THICKENING OF SHAFT. SIDES OF KNOB ROUND.

Shaft rectangular and round, the parts next to and between knobs being rectangular.

Only one specimen, and that with both ends gone.

2547. Uncleaned. Length, 0.257 m. Knobs, 0.007 m. Centre to centre, 0.05 m. Shaft, 0.003 m. \times 0.0035 m. and less. Gradual transition with slight thickening of shaft on mixed end.

FORM 2. KNOB A THICKENING OF SHAFT. SIDES OF KNOB RECTANGULAR.

Class a. Shaft rectangular and round, the parts next to and between knobs being rectangular.

Both ends gone.

2548. Uncleaned. Length, 0.314 m. Knobs, 0.0035 m. square. Centres, 0.018 m. apart. Shaft, 0.0024 m. square and less. One stub rectangular, the other has gradual transition with swelling.

Class β . Shaft rectangular.

Both ends gone.

2549. Uncleaned. Length, 0.193 m. Knobs, about 0.005 m. square. Centres, 0.034 m. apart. Shaft, 0.0028 m. square. Longer stub is slightly twisted and has trace of zigzag.

Class γ . Shaft between and adjoining knobs nearly elliptical (i. e. rectangular with rounded angles), but toward point becomes somewhat more rounded.

Point.

2550. Uncleaned. Length, 0.16 m. Knobs, 0.003 m. \times 0.0027 m. Centres, 0.016 m. apart. Shaft, 0.0025 m. \times 0.002 m. and less. Centre of nearest knob to point, 0.13 m.

¹ Developed specimen with advanced terminal end from

FORM 3. SIDES OF SHAFT INCUT AT ENDS OF KNOBS, WHICH ARE CONVEX, WITH ROUNDED SIDES. ENDS OF SHAFT ADJOINING KNOBS TEND TO INCREASE IN EMPHASIS. CORRESPONDS TO **Type b**, FORM 3.

Class a. Shaft rectangular and round, the parts near to and between knobs being rectangular.¹ (No complete pieces.)

(a'.) Point.

PLATE CXXX.

2551. Length, 0.611 m. Knobs, 0.009 m. Distance apart, 0.026 m. Shaft, 0.0046 m. \times 0.005 m. Centre of nearest knob to point, 0.086 m. At either end of each knob, raised flat rectangular ring. Transitions gradual.

(b'.) Preserved end plain and blunt. No cap.

Larger and more developed knob near more advanced transition.

2552. Length, 0.405 m. Knobs, 0.006 m. - 0.009 m. Distance apart, 0.0185 m. Shaft, 0.004 m. square and less except at transition, which is 0.005 m. \times 0.004 m. Gradual transition.

Knobs of same size, but original number uncertain.

2553. Length, 0.423 m. Knobs, 0.014 m. Shaft, 0.0065 m. square and less except at transition, which is 0.008 m. square. Nearest knob to end, 0.299 m. Traces of zigzag on rectangular part of shaft.

(c'.) Preserved end plain and blunt, but with cap.

Low rounded knobs with a single ring at either side of each. (Original number of knobs uncertain.)

2554. Length, 0.415 m. Knobs, 0.008 m. Distance apart, 0.064 m. Shaft, 0.005 m. near knobs, elsewhere less. Centre of knob to end, 0.303 m. Gradual transition.

Rounded knobs with a single ring at either side of each. (Original number of knobs uncertain.)

2555. Length, 0.417 m. Knobs, 0.014 m. Distance apart (between rings), 0.071 m. Shaft, 0.006 m. square near knobs, elsewhere less. Gradual transition.

Developed angular knobs with several rings at either side of each. (Original number of knobs uncertain, but probably not less than three.)

Tegea (*Mitth.* V. p. 67, pl. iv. a [Milchhöfer]). Movable disk at beginning of *long end*.

2556. Length, 0.293 m. Knobs, 0.0145 m. Interspace, 0.024 m. Shaft, 0.0055 m. square at knobs, elsewhere less. Shorter stub has four rings next to knob and four at break. Longer stub has four next to knob and five at transition. Between knobs, three and five. Transition plain, but not abrupt. Nearest knob to end, 0.203 m.

(*d'*.) Preserved end a plain round terminal piece, uncertain whether with cap.

Rounded knobs with grooved ring at either side.

2557. Length, 0.29 m. Knobs, 0.012 m. Interspace, 0.073 m. Shaft, 0.005 m. \times 0.006 m. and less. Transition rapid, but not abrupt. Length of terminal, 0.075 m.

(*e'*.) Both ends gone.

Rounded knobs with a single ring at either side of each. (Original number of knobs uncertain.)

2558. Length, 0.383 m. Knobs, 0.0125 m. Interspace, 0.07 m. Shaft, 0.006 m. square near knobs, elsewhere less. Gradual transition.

Oblong angular knobs. No rings.

2559. Length, 0.22 m. Knobs, 0.01 m. Interspace, 0.035 m. Shaft, 0.005 m. square and less. Transition plain but gradual.

2560. Length, 0.226 m. Knobs, about 0.01 m. Transition followed by terminal, the beginning of which is rectangular, the remainder round. Probably no more knobs originally.

Discard similar to above: uncleaned, one.

Short angular knobs. No rings.

2561. Length, 0.321 m. Knobs, 0.012 m. Interspace, 0.037 m. Shaft, 0.007 m. square and less. Probably no more knobs originally.

2562. Length, 0.365 m. Knobs, 0.009 m. Interval, 0.02 m. Shaft, 0.0045 m. square and less. Gradual transition. Probably no more knobs originally.

2563. Length, 0.171 m. Knobs, 0.012 m. \times 0.015 m. Interval, 0.042 m. Shaft, 0.006 m. \times 0.0065 m. and less. Short terminal.

Addenda to Class a. Fragments with knobs of unequal size. Probable that nearly all had originally three knobs, but the case of No. **2552** makes it preferable to put them here. Arrangement from rounded to angular knobs.

2564. Length, 0.157 m. Knobs, 0.013 m. and 0.008 m. Interspace, 0.021 m. Advanced transition (on side of smaller knob) followed by round ornamented terminal (length, 0.039 m.), beginning with disk.

2565. Length, 0.115 m. Knobs, 0.011 m., 0.007 m., the smaller being toward transition. Interspace, 0.014 m. Advanced transition followed by ornamented terminal piece beginning with disk as in No. **2564**. Length, 0.054 m. Traces of zigzag on rectangular part of shaft, on all four sides.

2566. Uncleaned. Length, 0.157 m. Knobs, 0.014 m. and 0.0095 m., the smaller being toward transition. Interspace, 0.017 m. Advanced transition followed by round part, after which secondary transition and round terminal, of which length, 0.057 m.

The fact that the smaller knob is, in the above addenda, nearer the transition is without significance in those cases in which it was balanced by a similar smaller knob on the other side of larger knob.

Discards similar to above (Nos. 2564 ff.): cleaned, five; uncleaned, two.

Class β . Rectangular shaft. As no ends are preserved, the majority were probably of Class a. (Original number of knobs in no case certain.)

2567. Length, 0.258 m. Knobs, 0.007 m. Interspace, 0.075 m. Shaft, 0.005 m. square at knobs, elsewhere less.

2568. Length, 0.063 m. Knobs, 0.016 m. Interspace, 0.0275 m.; at each end, on all four sides, two grooves (distance apart, 0.004 m.) connected by diagonal cross lines.

2569. Length, 0.138 m. Knobs, 0.01 m. and 0.011 m. Interspace, 0.045 m. Shaft, near knobs, 0.047 m. square, elsewhere less.

2570. Length, 0.128 m. Knobs, 0.015 m. Interspace, 0.037 m. Shaft, 0.005 m. and less. Faint traces of ornament near knobs, perhaps lines connected by diagonals as in No. **2568**, and circles.

2571. Length, 0.15 m. Knobs, 0.007 m. and 0.0065 m. Interspace, 0.025 m. Shaft, 0.005 m. (near knobs, elsewhere less).

The following have a single ring on shaft at either side of knobs.

2572. Length, 0.152 m. Knobs, 0.01 m. and 0.011 m. Interspace, 0.034 m. Shaft, 0.006 m. and less. Traces of zigzag between knobs.

2573. Length, 0.113 m. Knobs, 0.009 m. Interval, 0.017 m. Shaft, 0.004 m. \times 0.0045 m. near knobs, elsewhere less.

Discards similar to above (Nos. 2572 f.): cleaned, one; uncleaned, four.

Addenda to Class β. Knobs of unequal size. (a'.) Without rings.

2574. Length, 0.086 m. Knobs, 0.018 m., 0.009 m. Interval, 0.0315 m. On all four sides, broad zigzag of bent lines.

2574 a. Uncleaned. Length, 0.0365 m. Knobs, 0.01 m., 0.005 m. Interval, 0.022 m. Shaft, 0.0045 m. square. All four sides occupied with ornament. Space divided by vertical lines into three sections, in each of which, a diagonal cross. Lines and crosses struck with chisel.

Discard similar to above (Nos. 2574 f.): one.

(b'.) One or more rings next to each end of knobs.

2575. Length, 0.055 m. Knobs, 0.022 m. and 0.01 m. Interval, 0.013 m. Shaft, 0.007 m. square. Single plain rings.

2576. From West Building. Length, 0.089 m. Knobs, 0.007 m. and 0.008 m., larger knob being toward transition. Interspace, 0.0115 m. Shaft near knobs, 0.0042 m., 0.0045 m. Advanced transition which was followed by disk and terminal end.

2577. Length, 0.076 m. Knobs, 0.008 m. and 0.013 m. Interval, 0.0115 m. Shaft, 0.004 m. square. Single rings.

2578. Length, 0.096 m. Knobs, 0.0115 m. and 0.005 m. Interval, 0.011 m. Shaft, 0.003 m. square. Three rings outside large knob, elsewhere two. Between large knob and transition, framed zigzag. Portion between small knob and break divided by two lines into two sections, of which the first has framed zigzag; the second is plain.

2579. Uncleaned. Length, 0.04 m. Knobs, 0.0125 m., 0.0095 m. Interspace, 0.02 m. Shaft, 0.0055 m. square. Single rings. Stub of shaft on side of smaller knob has broken out hole. Diameter, 0.0015 m.

Discards of (b'): uncleaned, six.

Class γ. Shaft rectangular and round, the ends and the part between knobs being round.

Both ends blunt, shorter end probably complete.

2580. Length, 0.322 m. Knobs, 0.0078 m. Interspace, 0.0115 m. Ornamented with fine parallel threading. Shaft, 0.003 m. square at knobs, elsewhere less. Shorter end has plain but not abrupt transition to round. Longer end has gradual transition. Near knobs, zigzag of bent lines on all four sides.

Addendum to Class γ. The following could also be regarded as straight pins of **Type f**.

2580 a. Both ends incomplete. Length, 0.142 m. Knobs, 0.008 m., 0.0125 m. Ring at either side of each. Interval between rings, 0.023 m. Shaft, 0.0035 m. square. Between knobs, rounded rectangular bar and outside larger knob, round shaft.

FORM 4. SIMILAR TO FORM 3, BUT SWELLING OF SIDES IS RECTANGULAR. (No complete specimens.)

Class α. Shaft rectangular and round.

Both ends gone.

2581. Length, 0.827 m. Knobs, 0.0075 m. × 0.0065 m. and 0.007 m. square. Interspace, 0.251 m. Shaft, 0.0065 m. × 0.006 m. near knobs, elsewhere less. Smaller knob acts as transition to following end, which is round. Next to knobs, swelling of shaft but no rings.

Similar but more developed rectangular knob, with a square ring at either side of knobs.

2582. Length, 0.307 m. Knobs, 0.007 m. square. Interval, 0.0575 m. Shaft, 0.0045 m. square and less. Direct but not abrupt transition accompanied by slight thickening of shaft.

Class β. Shaft rectangular and round, with secondary swelling near end as well as at transition.

Ends.

2583. Length, 0.536 m. Knobs, 0.0035 m. × 0.003 m. Slightly developed. Interspace, 0.01 m. Shaft, 0.0027 m. × 0.0025 m. and less. Plain but gentle transition to round. Probable that this piece is practically complete.

2584. Uncleaned. Length, 0.25 m. Knobs, 0.0035 m. and 0.0033 m. Interspace, 0.0225 m. Ring adjoining each knob on side toward ends. Shaft, 0.0023 m. square. From middle of secondary swelling to preserved end, screw-threading.

FORM 5. SIMILAR TO FORM 3, BUT RING AT EITHER END OF KNOB HAS NOW BECOME AN APPENDAGE TO IT. Cf. **Type b**, FORM 5.

Rectangular shafts. No ends preserved.

PLATE CXXXI.

2585. Length, 0.247 m. Knobs, 0.014 m. and 0.0135 m. Interspace, 0.062 m. Shaft, 0.005 m. square and less. Advanced transition. Knobs probably of same piece with shaft.

2586. Length, 0.18 m. Knobs, 0.015 m.

Interspace, 0.0665 m. Shaft, 0.0035 m. square and less. Knobs appear to be jacketed on.

2587. Length, 0.384 m. Knobs, 0.0275 m. Interval, 0.057 m. Shaft, 0.0083 m. square and less. Gradual transition on longer stub. Knobs perhaps of separate pieces from shaft.

2588. From south slope. Length, 0.234 m. Knobs, 0.023 m. and 0.0225 m. Interspace, 0.041 m. Shaft, 0.006 m. square. Rectangular inset near end of longer stub probably to prepare for transition. Between rings of each knob, longitudinal striations. Knobs of separate pieces from shaft.

Type d. Three knobs.¹

FORM 1. KNOB A SIMPLE SWELLING OF SHAFT. SIDES OF KNOB RECTANGULAR. KNOBS OF THIS FORM BELONGING TO **Type d** ARE MORE ADVANCED THAN THOSE OF THE CORRESPONDING FORMS OF **Types b** AND **c**.

Shaft rectangular and round. No complete pieces.

2589. Shorter end may be complete. Length, 0.368 m. Knobs, 0.007 m. square. Interspaces (reckoned from centres of knobs), 0.027 m. Shaft, 0.0053 m. square and less. Centre of nearest knob to end, 0.027 m. On long stub, gradual transition. On all four sides along knobs, slightly wavy band of zigzag of bent lines finely engraved.

2590. Both ends gone. Length, 0.331 m. Knobs, 0.007 m. square. Centres, 0.032 m. and 0.029 m. apart. Shaft, 0.005 m. square and less. One end round, with broad screw-threading, which is not engraved but struck with chisel in connecting sections of about 0.002 m. in length. This end preceded by rapid transition. Between knobs, on all four sides, broad zigzag of bent lines.

FORM 2. SIDES OF SHAFT INCUT AT ENDS OF KNOBS, WHICH ARE CONVEX, WITH ROUNDED SIDES. PORTIONS OF SHAFT ADJOINING KNOBS TEND TO INCREASE IN EMPHASIS. Cf. FORM 3 OF **Types b** AND **c**.

Class a. Shaft rectangular and round.

Group i. Central knob larger than the other two.

(a'.) Ends.

2591. Plain end probably about complete, the other not. Length, 0.418 m. Knobs, 0.01 m.,

0.0135 m., 0.009 m. (from ornamented end). Interspaces, 0.017 m., 0.016 m. respectively. Shaft, 0.007 m. square at principal transition, elsewhere less. One transition advanced and followed by ornamented terminal, the other easy but marked with three lines of engraving. Zigzag of bent lines on four sides of this part of rectangle.

2592. Length, 0.515 m. Knobs, 0.01 m. and 0.0075 m. Interspace, 0.022 m. Shaft, 0.0035 m. and less. Nearest knob to end, 0.40 m. Gradual transition. Broken end had advanced transition and ornamented round terminal. On rectangular part of this end, fine zigzag of bent lines.

(b'.) Both ends gone.

Short angular knobs without ring at end.

2593. Length, 0.298 m. Knobs, 0.0085 m., 0.011 m., 0.0095 m. (from direction of advanced transition). Interspaces, 0.033 m. and 0.032 m. respectively. Shaft, 0.0055 m. square and less. One transition advanced (0.075 m. from nearest knob), the other gradual (0.104 m. from nearest knob). On rectangular part, narrow zigzag of bent lines.

2594. Length, 0.293 m. Knobs, 0.009 m., 0.011 m., 0.0085 m. (from advanced transition). Interspaces, 0.024 m. Shaft, 0.0055 m. square and less. One transition advanced (0.098 m. from nearest knob), the other gradual (0.07 m. from nearest knob). On rectangular part, traces of zigzag of bent lines.

Discard similar to above (2593 f.): uncleaned, one.

Oblate rounded knobs with advanced ring at either end of each knob.

2595. Length, 0.153 m. Knobs, 0.0135 m. and 0.0095 m. Intervals, 0.02 m. and 0.0175 m. Shaft, 0.004 m. square and less. Gradual transitions, one at 0.023 m. from nearest knob marked by three engraved lines, the other at 0.028 m. from the other small knob with four lines. The latter led to round terminal. On all sides of rectangular part, narrow zigzag of bent lines.

Ordinary knobs. Arrangement from rounded pear-shaped sides to short sides with sharp angles. Single ring at end of each knob.

2596. Length, 0.318 m. Knobs, 0.008 m.

against square basis. Holes in disks round, except one which is square.

¹ On four spits of this type in the Carapanos collection (from Dodona), all of which are straight, is passed a disk of analogous size. Disk on ornamented end, and rests

and 0.012 m. Intervals, 0.01 m. and 0.009 m. Shaft, 0.005 m. \times 0.0055 m. at principal transition, elsewhere less. At 0.045 m. from nearest knob advanced transition, probably followed by round terminal. At 0.032 m. from the other small knob, gradual transition with two engraved lines. Entire rectangular part covered with fine zigzag of bent lines.

2597. Length, 0.18 m. Knobs, 0.006 m., 0.012 m., 0.0075 m. (reckoned from principal transition). Interspaces, 0.015 m. and 0.018 m. respectively. Shaft, 0.0036 m. square and less, except at transition, where it is more. At 0.0395 m. from nearest knob, advanced transition with disk into which round terminal was inserted. At 0.032 m. from the other small knob, gradual transition with two and three lines. Traces of zigzag of bent lines on rectangular part.

2598. Length, 0.108 m. Knobs, 0.006 m., 0.012 m., 0.0065 m. Interspaces, 0.014 m., 0.0125 m. Shaft, 0.0035 m. square and less. At 0.02 m. from knob, abrupt transition with ring, groove, and disk. At 0.013 m. from other small knob, plainly marked transition to round.

2599. Length, 0.124 m. Knobs, 0.006 m., 0.011 m., 0.0075 m. (counting from shorter stub). Interspaces (between rings), 0.0085 m. Shaft, 0.0037 m. \times 0.004 m. At 0.0165 m. from smallest knob, break, which was followed by round part. At 0.015 m. from other small knob, easy transition with three lines.

2600. Length, 0.2055 m. Knobs, 0.008 m., 0.0135 m. Interspaces, 0.01 m., 0.0125 m. Shaft, 0.004 m. \times 0.0037 m. and less. Plainly marked transition. Traces of zigzag of bent lines on rectangular part.

2601. From West Building. Length, 0.1665 m. Knobs, 0.007 m., 0.01 m. Interspaces, 0.013 m., 0.017 m. Shaft, 0.003 m. square and less, except at transition (0.0035 m. \times 0.004 m.). Transitions equidistant (0.018 m.) from knobs, the one advanced to terminal, the other plainly marked to round.

2602. Length, 0.182 m. Knobs, 0.01 m., 0.0175 m. Interspaces, 0.022 m., 0.021 m. Shaft, 0.0057 m. square and less (at transition, 0.006 m. square). At 0.0675 m. from knob, advanced transition with disk and round ornamented terminal. At the other end, stub (length, 0.004 m.; width, 0.006 m.; thickness, 0.0024 m.), in end of which hole (broken out) 0.0025 m. in diameter. Shaft was therefore composite. Faint traces of zigzag of bent lines.

2603. Length, 0.133 m. Knobs, 0.0075 m., 0.01 m., 0.008 m. Interspaces, 0.018 m., 0.02 m. Shaft, 0.004 m. \times 0.0045 m. and less. Advanced transition with disk, followed by ornamented round terminal.

2604. Length, 0.225 m. Knobs, 0.009 m., 0.012 m. Interspaces, 0.03 m., 0.031 m. Shaft, 0.0034 m. \times 0.0038 m. and less, but increasing to 0.0055 m. square at transition. Advanced transition with disk at 0.055 m., gradual transition at 0.045 m. from respective nearest knobs. Traces of zigzag of short bent lines.

Discards similar to above (Nos. 2596 ff.): cleaned, two; uncleaned, one.

Group ii. All three knobs equal or nearly equal in size. (No ends preserved except possibly terminal of No. 2610.)

The following numbers are without rings at ends of knobs.

2605. Length, 0.357 m. Knobs, 0.009 m. Interspaces, 0.021 m., 0.015 m. Shaft, 0.0045 m. \times 0.0043 m. and less. One stub rectangular, the other has gradual transition to round.

2606. Uncleaned. Length, 0.438 m. Knobs, 0.006 m. Interspaces, 0.021 m., 0.0215 m. Shaft, 0.0026 m. \times 0.0028 m. Transitions at 0.05 m. and 0.053 m. from knobs, the one plain to rectangle with rounded corners (traces of beginning of screw-threading), the other gradual.

At either side of each ring a single knob.

2607. Length, 0.393 m. Knobs, 0.008 m. Interspaces, 0.012 m. Shaft, 0.0038 m. square and less. On one side rectangular to break, on the other, gradual transition to round.

On shaft adjacent to ends of knobs, two grooves, which with notch form two low rings.

2608. Length, 0.328 m. Knobs, 0.0085 m. Interspaces, 0.0135 m., 0.012 m. Shaft, 0.0045 m. square and less. On one stub, plain but not abrupt transition; the other stub is rectangular to break. In interspaces, a single line of engraving along each edge.

Single heavy ring at either side of each knob. Knobs angular but rather flat. Knob and ring form transition to form in which knob and ring are one piece in construction.

2609. Length, 0.463 m. Knobs, 0.012 m. Interspaces, 0.009 m., 0.015 m. Shaft, 0.007 m. square and less. On one stub, gradual transi-

tion to round; the other stub is rectangular to break.

Raised double ring at either end of each knob. Knobs similar to those of preceding number (2609).

2610. Terminal perhaps about complete. Length, 0.258 m. Knobs, 0.012 m. Interspaces, 0.018 m., 0.014 m. Shaft, 0.0065 m. \times 0.006 m. and less, but increases to 0.01 m. square at transition. Transition advanced. After it, rectangular piece forming secondary transition, and round plain terminal. The other stub is rectangular to break. From a distance of 0.003 m. from break, incut 0.001 m. on two adjacent sides; purpose not clear.

Class β . Shaft rectangular.

Group i. Central knob largest.

Ordinary knobs with a single ring at either side of each. Arrangement from less to greater angularity.

2611. Length, 0.135 m. Knobs, 0.008 m., 0.01 m., 0.0085 m. Interspaces, 0.0335 m., 0.0315 m. Shaft, 0.0035 m. \times 0.0033 m. and less.

2612. Length, 0.14 m. Knobs, 0.0095 m., 0.0165 m., 0.009 m. Interspaces, 0.0125 m. Shaft, 0.0045 m. \times 0.0053 m. and less, but increases to 0.005 m. \times 0.006 m. at transition. Advanced transition. Zigzag of bent lines throughout.

2613. Length, 0.186 m. Knobs, 0.009 m., 0.0175 m., 0.0095 m. Interspaces, 0.026 m., 0.029 m. Shaft, 0.0055 m. square at transition, elsewhere less. Advanced transition followed by short stub in which hole (diameter, 0.0028 m., depth, 0.01 m.) into which terminal (probably of iron) was inserted. Zigzag of bent lines throughout.

Addendum to Group i. The following piece is perhaps best put here.

2613 a. Uncleaned. Length, 0.083 m. Knobs, 0.007 m., 0.0125 m. Interspaces, 0.017 m. Shaft, 0.0035 m. \times 0.0032 m. At either side of large knob and at inner end of one of the others, three raised rings. At either side of the other small knob, double ring. Original number of knobs uncertain.

Discards of Group i.: cleaned, one; uncleaned, four.

Group ii. Knobs of equal or nearly equal size.

(*a'*.) Blade end.

Ordinary knobs. No rings.

2614. Length, 0.105 m. Knobs, 0.008 m. Intervals, 0.017 m., 0.0185 m. Shaft, 0.005 m. square and less. Width of blade, 0.0065 m. Thickness, 0.003 m. Blade probably slightly longer originally.

(*b'*.) Ends gone.

Ordinary knobs. No rings.

2615. Length, 0.177 m. Knobs, 0.01 m. Interspaces, 0.003 m., 0.0028 m. Shaft, 0.0065 m. and less. Advanced transition with hole (diameter, 0.003 m. \times 0.002 m.) in end containing stub of inserted bronze terminal.

At either side of each knob a single ring formed by enlargement of adjoining portions of shaft.

2616. Length, 0.146 m. Knobs, 0.0095 m., 0.01 m. Interspaces, 0.013 m., 0.0145 m. Shaft, 0.0052 m. square and less, but increases to 0.0063 m. square at transition. Advanced transition with disk, after which round terminal. Zigzag of bent lines throughout. Possibly more knobs originally.

Rings separated from knobs and adjoining portions of shaft by deep groove. Ordinary angular knobs.

2617. Length, 0.1825 m. Knobs, 0.0115 m., 0.012 m. Interspaces, 0.0335 m., 0.03 m. Shaft, 0.0065 m. square and less. Advanced transition with disk followed by stub of terminal. The other end has broken round surface at 0.031 m. from nearest knob.

Rings more advanced in that they are raised above the shaft. Independent of knobs, from which they are separated by a shallow groove. Cf. No. 2529. Knobs slightly angular.

2618. Uncleaned. Length, 0.0715 m. Knobs, 0.015 m. Interspaces, 0.02 m. Shaft, 0.001 m. \times 0.009 m. May have been part of rod or staff, but formally belongs here.

FORM 3. SIMILAR TO FORM 2, BUT SIDES OF KNOBS ARE RECTANGULAR. FORM 3: FORM 2 = FORM 1: PLAIN ROUND KNOB WITHOUT GROOVE AT ENDS (NOT REPRESENTED AT HERAEUM).

Shaft rectangular and round.

End.

2619. Length, 0.42 m. Knobs, 0.007 m. square, and 0.0075 m. \times 0.008 m. (*bis*). Interspaces, 0.0385 m. and 0.04 m. Shaft, 0.0053 m. \times 0.0057 m. and less. Nearest knob to end, 0.194 m.

FORM 4. KNOB SIMILAR TO THAT OF FORM 2, BUT COMBINED WITH RINGS TO FORM AN ORGANIC WHOLE. OUTER ENDS ON RINGS ABRUPT, INSIDE SLOPES INWARD TOWARD BASE OF KNOB. GROOVE DEEPER THAN LINE OF SHAFT.

Shaft rectangular and round.

PLATE CXXXII.

2620. Both ends gone. Length, 0.292 m. Knobs, 0.008 m., 0.0078 m., 0.0085 m. Interspaces, 0.0235 m., 0.026 m. Shaft, 0.0037 m. \times 0.003 m. and less. Gradual transition to round. Corners of shaft beveled off in interspaces.

FORM 5. KNOB AS IN FORM 2, BUT COMBINED WITH RINGS TO FORM AN ORGANIC WHOLE, WHICH MAY BE A SEPARATE PIECE. Cf. FORM 5 OF **Types b** AND **c**.

Shaft rectangular and round.

Both ends gone.

2621. Length, 0.151 m. Knobs, 0.0105 m., 0.012 m., 0.011 m. Interspaces, 0.02 m., 0.021 m. Shaft, 0.0053 m. square and less. Abrupt but not advanced transition. Knobs with their rings probably separate pieces from shaft.

2622. Length, 0.503 m. Knobs, 0.018 m. Interspaces, 0.029 m., 0.023 m. Shaft, 0.005 m. square. Plain but gradual transition, marked by three engraved lines. Two or three lines also at each end of knobs (outside rings). Knobs and rings probably separate pieces from shaft.

FORM 6. ADVANCED ROUNDED KNOBS RISING ABRUPTLY FROM SHAFT AND DIVIDED BY GROOVE IN CENTRE SO THAT EACH HAS THE FORM OF TWO BROAD RINGS. (Knobs and shaft of one piece.)

Shaft rectangular and round.

2623. Both ends gone. Length, 0.409 m. Knobs, 0.008 m., 0.0085 m., 0.008 m. Interspaces, 0.086 m., 0.085 m. Shaft, 0.0052 m. square and less. Gradual transitions.

FORM 7. ADVANCED RECTANGULAR KNOBS RISING ABRUPTLY FROM SHAFT.

Shaft rectangular and round.

Ends gone.

2624. Length, 0.468 m. Knobs, about 0.008 m. square. Shaft, 0.0055 m. square and less. Gradual transition. On each side of each knob, diagonal cross running from corner to corner. Engraved or struck with chisel.

Type e. Four knobs.

Ordinary developed knobs with rounded angles. Shaft grooved at either end of each knob. Adjoining portions of shaft emphasized

so as to form rings. Similar to three-knob type, with central knob largest, except that between central knob and one of the smaller ones (that nearest small end) a still smaller knob is inserted.

Shaft rectangular and round.

2625. Both ends gone. Length, 0.197 m. Knobs, 0.009 m., 0.013 m., 0.005 m., 0.009 m. (reckoned from principal transition). Intervals, 0.0165 m., 0.01 m., 0.0065 m. Shaft, 0.004 m. square. Advanced transition at 0.045 m. from nearest knob, gradual at 0.025 m.

Addendum to Type e. The following piece probably had five knobs originally.

2626. End. Length, 0.243 m. Knobs, 0.0045 m.–0.0065 m. Shaft, 0.0037 m. square, increasing at transition to 0.005 m. \times 0.0052 m. Advanced transition, ornamented with two grooves. After it, terminal ornamented with screw-threading.

Type f. Five knobs.

ANGULAR OR SLIGHTLY ROUNDED KNOBS WITH GROOVE AT EACH END. EMPHASIS OF ADJOINING PORTION OF SHAFT.

Shaft rectangular and round (except in incomplete fragments).

Group i. Knobs of three sizes, the largest being in centre and the two smallest at either side of central knob.

Ends gone.

(a'.) Smallest knobs slightly developed and but slightly larger than shaft.

2627. Length, 0.158 m. Knobs, 0.01 m., 0.005 m., 0.008 m. Interspaces, 0.005 m.–0.008 m. Small ring at either side of central knob. Elsewhere, emphasis. Transitions (about equidistant from knobs), the one gradual, the other advanced. The latter is followed by ornamented round terminal. Narrow zigzag of bent lines throughout rectangular part.

2628. Length, 0.139 m. Knobs, 0.011 m., 0.0063 m., 0.0065 m., 0.0085 m. Intervals, 0.009 m. Shaft, 0.004 m. square and less. Advanced transition followed by round terminal. Zigzag of bent lines throughout rectangular part.

2629. Length, 0.1485 m. Knobs, 0.01 m., 0.0047 m., 0.0075 m. Interspaces, interior, 0.0085 m.; exterior, 0.0075 m. Transitions advanced, with disk followed by ornamented terminal, and gradual. Throughout rectangular part zigzag of bent lines.

2630. Length, 0.162 m. Knobs, 0.01 m.,

0.0047 m., 0.0075 m. Interspaces, interior, 0.075 m., 0.06 m.; exterior, 0.0055 m. Shaft, 0.004 m. and less. Gradual transition preserved, the other was probably advanced. Traces of zigzag of bent lines.

Discards similar to Nos. 2629 f.; uncleaned, one.

(*b'*.) Interior knobs developed. Rings.

2631. Length, 0.368 m. Knobs, 0.0165 m., 0.012 m., 0.0115 m., 0.0125 m., 0.0115 m. Intervals, interior, 0.017 m., 0.0185 m.; exterior, 0.0215 m., 0.0225 m. Shaft, 0.0067 m. \times 0.0065 m. at transition. Advanced transition followed by ring and round stub. On all sides zigzag of bent lines.

Group ii. Central knob largest. Smaller knobs of uniform size.

No ends preserved. Arrangement toward angularity.

2632. Length, 0.219 m. Knobs, 0.0175 m.; 0.011 m., 0.0115 m.; 0.01 m. Interspaces, 0.0235 m. (interior), 0.018 m., 0.017 m. (exterior). Shaft, 0.0065 m. square and less, increasing to 0.0068 m. square at transition. Advanced transition.

2633. Length, 0.28 m. Knobs, 0.0195 m.; 0.011 m., 0.012 m. Intervals, 0.031 m., 0.029 m. (interior), 0.0225 m., 0.023 m. (exterior). Shaft, 0.008 m. square and less. Advanced transition followed by round stub. On all sides zigzag of bent lines.

2634. Length, 0.232 m. Knobs, 0.021 m.; 0.011 m.-0.012 m. Interspaces, 0.034 m., 0.0325 m. (interior), 0.022 m., 0.024 m. (exterior). Shaft, 0.006 m. square and less. Advanced transition.

Addenda to Type f. The following fragments with three and four knobs may be put here owing to their similarity to the better preserved specimens of the type.

(*a'*.) Similar to Group i., (*a'*).

Similar to Nos. 2627 ff.

2635. Three knobs. Length, 0.0915 m. Traces of zigzag of bent lines.

2636. Four knobs. Length, 0.132 m.

Similar to Nos. 2629 f.

2637. Three knobs. Length, 0.0975 m. Advanced transition followed by stub of round terminal. Broad but close zigzag of bent lines throughout rectangular part.

2638. Three knobs. Length, 0.088 m. Slight traces of zigzag of bent lines.

The following is similar to Group i., (*b'*).

2639. Four knobs. Length, 0.304 m. Ad-

vanced transition with two grooves, followed by round terminal. Slight traces of narrow zigzag on rectangular part.

2640. Three knobs. Length, 0.087 m. Fine zigzag of bent lines.

(*b'*.) Similar to Group ii.

2641. Three knobs. Length, 0.357 m. Gradual transition.

2642. Four knobs. Length, 0.11 m.

2643. Four knobs. Length, 0.137 m. On all sides, fine zigzag of bent lines.

(*c'*.) The following fragment probably had seven or more knobs originally. Shaft rectangular. Angular knobs with a single ring at either end of each.

2644. Four knobs. Length, 0.2345 m. Knobs, 0.0225 m., 0.015 m., 0.0135 m. (*bis*). Interspaces, 0.031 m., 0.0325 m., 0.0425 m. Shaft, 0.0075 m. square and less. On all sides, zigzag of bent lines.

Addenda to Types a-f. (*a'*.) Ends.

Plain, pointed.

2645. Uncleaned. Length, 0.275 m. Ring followed by rectangular part (length, 0.029 m.), after which round. Gradual transition.

Discard similar to No. 2645: uncleaned, one.

Plain, blunt without cap.

2646. Length, 0.14 m. Round.

Plain, blunt with cap.

2647. From West Building. Length, 0.196 m.

Discards similar to No. 2647: cleaned, one; uncleaned, four.

Advanced. Simple terminal. Plain, blunt.

2648. Length, 0.053 m.

Discard similar to No. 2648: one.

Ornamented, somewhat advanced terminal pieces.

Simple screw-threading.

2649. Uncleaned. Length, 0.129 m.

Double screw-threading, changing to single near end.

2650. From West Building. Length, 0.167 m.

Plain sections separated by simple threading or grooves (three to six).

2651. Uncleaned. Length, 0.071 m. Six plain sections, besides end.

Convex sections separated by a single ring.

Sections short.

2652. Uncleaned. Length, 0.063 m. Ten sections.

2653. Uncleaned. Length, 0.1035 m. Eleven sections.

2654. Uneleaned. Length, 0.1625 m. Fifteen sections.

Discard similar to above (Nos. 2652 ff.): uncleaned, one. Eight sections.

Convex sections separated by two rings. Sections long.

2655. From West Building. Probably incomplete at end. Length, 0.1125 m. Four sections.

Similar but with short sections.

2656. Incomplete. Length, 0.52 m. Five sections.

2657. From south slope. Length, 0.122 m. Fifteen sections.

2658. From West Building. Incomplete. Length, 0.063 m. Six sections.

Convex sections separated by three rings. Sections short.

2659. Length, 0.175 m. Eleven sections.

2660. Length, 0.15 m. Twelve sections besides short initial section.

Discards similar to Nos. 2659 f.: cleaned, one; uncleaned, three.

Convex sections separated by two, three, and four rings. Sections long.

2661. From West Building. Length, 0.131 m. Six sections. First two sections separated by four rings, last two by two, the others by three.

Convex sections separated usually by four rings. Sections short.

2662. Length, 0.175 m. Twelve sections. Between first two sections one ring, between last five, elsewhere four.

Convex sections separated by five rings usually. Sections short.

2663. Length, 0.099 m. Eight sections. At end, bunch of rings (number uncertain) and cap. Between last two sections, screw-threading equivalent to about six rings.

Discard similar to above: uncleaned, one.

Convex sections (short) separated by four, five, and six rings.

2664. From back of South Building. Length, 0.1163 m. Eight sections. First four groups of rings have six each, the next two five each, and the last four.

Convex sections (short) separated by four, five, six, seven, and nine rings.

2665. Length, 0.133 m. First group of rings numbers seven, the second nine, third, fourth, and sixth six each, the seventh four, the eighth six or seven, and the fifth five.

The following number could also be regarded as a pin.

Terminal piece, the latter part of which has two convex surfaces separated by plain space. At either side of surfaces, rings.

2666. Incomplete. Length, 0.0905 m. First convex section preceded by three rings and followed by one, the second is preceded by two and followed by two plus cap.

(b'.) Neither end preserved.

Plain and simple.

2667. Length, 0.235 m. Gradual transition.

2668. Length, 0.668 m. Gradual transition.

2669. From West Building. Length, 0.523 m. Gradual but plain transition.

Discards similar to above (Nos. 2667 ff.): cleaned, two; uncleaned, fifty.

More advanced. Transition piece.

2670. Length, 0.074 m. Easy but plain transition followed by piece of round end which is ornamented with coarse screw-threading.

Advanced transitional pieces. Ordinary.

2671. Length, 0.1005 m. Two lines engraved at transition and four on shaft arranged in pairs.

Discards similar to No. 2671, but plainer: cleaned, two; uncleaned, five.

Advanced transition consisting of heavy ring with rounded sides.

2672. Uneleaned. Length, 0.105 m., of which 0.092 m. belongs to terminal. Terminal rectangular so far as preserved.

One knob and ring of another knob. Shaft rectangular.

2673. Length, 0.19 m. Rings double.

Discards (uncleaned): fragments with single knob, forty-five; fragment with two knobs, one; fragments with single knob, which are perhaps better regarded as straight pins (**Type k**), twenty-six; uncertain, one.

Knob only.

PLATE CXXXIII.

2674. From south slope. Length, 0.026 m. Diameter, 0.022 m. Heavy ring on one side, lighter on the other.

Bronze knob on iron shaft. Knobs rounded without rings. Shafts of uncertain shape, probably rectangular.

2675. Uneleaned. Length, 0.024 m. Diameter of knob, 0.015 m. Shaft, 0.006 m. square.

2676. Uneleaned. Length, 0.038 m. Knob, 0.013 m. Shaft, 0.006 m.

2677. Length, 0.261 m. Knob, 0.019 m. Shaft, 0.005 m.

(c'.) Shafts so twisted or bent as to suggest decorative or other purpose, which is, however, in no case certain.

Knotted or braided. No knobs.

2678. Uncleaned. Preserved end pointed. Bent into shape of ellipse the sides of which are formed by a double coil with its strands twisted about each other. Length, about 0.35 m. Shaft, 0.001 m. \times 0.0013 m. Rectangular and round.

2679. Uncleaned. Preserved end blunt. Complex knob near centre with single loop at each end, one loop being larger than the other. Length as bent, 0.099 m. Rectangular and round (size, 0.0016 m. \times 0.0018 m.).

Discards similar to Nos. 2678 f., but simpler: uncleaned, four.

Ends twisted so as to form one large loop. One knob.

2680. Spit of **Type b**, FORM 2, *Class a*, (a'). Length, 0.185 m. Knob, 0.019 m. \times 0.017 m. Shaft, 0.0012 m. \times 0.001 m. and less. Gradual transitions. Twisted purposely, perhaps to fasten.

Looped shafts, possibly decorative. No knobs.

2681. Both ends gone. Length, 0.092 m. Shaft round. Thickness, 0.0018 m. \times 0.0016 m. and less. Small loop with returning end.

2682. Uncleaned. Length as bent, 0.025 m. Shaft rounded. Thickness, 0.0017 m. \times 0.0015 m. Two narrow loops with returning ends.

2683. Uncleaned. Length as bent, 0.10 m. Shaft partly rectangular, partly rounded. Thickness, 0.0024 m. \times 0.0023 m. At one end, double loop with returning end.

The following types are related to the preceding by analogies of form.

Type g. Knob represented by flattening of shaft.

Class a. Shaft rectangular from one end of flat part and round from the other.

2684. Uncleaned. Ends gone. Length, 0.132 m. Shaft, 0.004 m. \times 0.0045 m. (flattened to 0.0075 m. \times 0.0018 m.). About half of shaft round.

Class β . Shaft rectangular from both ends of flat part.

2685. Uncleaned. Ends gone. Length, 0.055 m. Shaft, 0.004 m. \times 0.0035 m. (at flat part, 0.0065 m. \times 0.004 m.).

Class γ . Shaft round.

2686. Uncleaned. End. Length, 0.1165 m. Shaft, 0.0028 m. \times 0.0025 m. (flattened to 0.0035 m. \times 0.001 m.).

Discard: uncleaned, one.

Type h. Head at one end. Single knob.

Elongated knob with rounded sides. Shaft rectangular, with corners slightly rounded. Slightly grooved on side of knob toward point.

2687. Uncleaned. Length, 0.12 m. Knob, 0.003 m. Shaft, 0.002 m. \times 0.0015 m. Head, 0.0025 m. \times 0.002 m. Somewhat similar to simplest form of pins.

Type i. Head at one end resembling knob.

Composite shaft, rectangular, with round part inserted.

2688. From south slope. Other end gone. Length, 0.16 m. Head, 0.011 m. Jacket, 0.0085 m. \times 0.007 m. Split for 0.0555 m. where round is inserted. At lower end, four engraved lines. Much more oxidized than round part.

Type j. Blade at one end of shaft, and perhaps blunt round terminal at the other. No knob.

FORM 1. SHAFT NOT SOLID BUT FORMED BY FOLDING TOGETHER A NARROW THIN STRIP.

Class a. Folded so as to form a small tube. Edges do not form straight line. Sometimes they overlap.

Ends. Flattened to form blades.

2689. Length, 0.074 m. Thickness, 0.0024 m. Width of blade, 0.0035 m.

2690. Uncleaned. Length, 0.126 m. Thickness, 0.0038 m. and less. Width of blade, 0.004 m.

Both ends gone.

2691. Uncleaned. Length, 0.0317 m. Thickness, 0.002 m. and less.

2692. Length, 0.1525 m. Thickness, 0.0024 m. and less.

2693. Length, 0.079 m. Thickness, 0.0028 m.

2694. Uncleaned. Length, 0.041 m. Thickness, 0.0034 m. - 0.002 m.

2695. Uncleaned. Length, 0.074 m. Thickness, 0.004 m. and less.

Discards similar to the above (Nos. 2691 ff.): uncleaned, two.

Class β . Edges folded in and brought close together, the hollow between the two rolls taking the place of tube.

One end blade-shaped, the other blunt and round.

2696. From south slope. Possibly not complete. Length, 0.087 m. Thickness, 0.0025 m. \times 0.0015 m. Width of blade, 0.0027 m.

2697. Uncleaned. Possibly not complete. Length, 0.483 m. Thickness, 0.0025 m. and less. Width of blade, 0.0035 m.

Both ends gone.

2698. Uncleaned. Length, 0.242 m. Thickness, 0.0025 m. \times 0.0018 m.

Discards similar to No. 2698: uncleaned, three.

FORM 2. SOLID SHAFT, ROUNDED. BLADE DOUBLE:

Blade ends only.

The following have both parts of blade in the same plane.

2699. Uncleaned. Length, 0.424 m. Thickness, 0.002 m. Length of blade, 0.011 m. + 0.0115 m. Width, 0.003 m. and less.

2700. Uncleaned. Length, 0.07 m. Thickness, 0.003 m. and less. Length of blade, 0.011 m. + 0.011 m. Width, 0.0049 m. and less. End has sides rounded to point.

2701. Uncleaned. Length, 0.063 m. Thickness, 0.003 m. Length of blade, 0.01 m. + 0.009 m. Width, 0.0075 m. and less. Near centre of first part, round hole (diameter, 0.001 m.).

Both parts of blade in planes which are at right angles to each other.

2702. Uncleaned. Length, 0.084 m. Thickness, 0.004 m. and less. Length of blade, 0.027 m. Width, 0.005 m.

Type k. Solid rounded shaft (without knob), one end of which terminates in blade which is not set in same plane with shaft.

End.

2703. Uncleaned. Length, 0.1365 m. Shaft, 0.0017 m. Use uncertain.

Type l. Similar but straight. Slight knob or convex surface near beginning of blade. Shaft round except near blade.

2704. Found in first chamber at east end on lower terrace, April 28, 1893. Probably incomplete at other end. Bent. Length, 0.115 m. Knob, 0.0032 m. Shaft, 0.0023 m. to 0.0017 m. Length of blade, 0.008 m. + 0.018 m. Width, 0.0052 m. and less. Rectangular part ornamented with grooves and fine lines. Use uncertain. Perhaps a medical instrument.

Type m. Plain shafts without knob, terminating at one end in hook or loop. The other end in the only case preserved is a flat point.

Class a. Rectangular shaft.

2705. Uncleaned. Other end gone. Length, 0.19. Thickness, 0.0015 m. \times 0.0013 m. Loop, 0.008 m. \times 0.0055 m.

Class β . Rounded shaft.

2706. Probably complete. Length, 0.335 m. Shaft, about 0.0036 m. Diameter of loop, 0.012 m.

Only loop end preserved.

2707. Length, 0.176 m. Thickness, 0.0017 m. Loop, 0.0115 m. \times 0.007 m.

2708. From back of South Building. Length, 0.086 m. Thickness, 0.0023 m. Loop, 0.008 m. \times 0.007 m.

2709. Uncleaned. Length, 0.102 m. Thickness, 0.0037 m. Loop, 0.021 m. \times 0.009 m.

2710. Length, 0.349 m. Thickness, 0.006 m. Loop, 0.02 m. \times 0.006 m.

Addendum. Irregularly elliptical shaft with closed loop. Resemblance to this type perhaps accidental.

2711. From back of South Building. Length, 0.05 m. Shaft, 0.0017 m. \times 0.0013 m. Loop, 0.0055 m. \times 0.003 m. Differs from the others in having loop closed with end protracted.

Type n. Terminal follows knob. Single knob, angular, with groove at either end. (Probably better regarded as spits than as straight pins, e. g. of **Type d.**)

Class a. Rectangular terminals.

2711 a. Uncleaned. Length, 0.165 m. Knob, 0.0035 m. Shaft, 0.002 m. square. Length of terminal, 0.0255 m.

2711 b. Uncleaned. End of shaft gone. Length, 0.14 m. Knob, 0.0075 m. Length of terminal, 0.0455 m. Ends in round knob (diameter, 0.003 m.).

2711 c. Uncleaned. Fragment of terminal. Length, 0.033 m. More advanced than the preceding number.

2711 d. Fragment of terminal. Length, 0.055 m. Size at break, 0.0018 m. \times 0.002 m. Base, 0.0075 m. \times 0.007 m. Interior rectangle set (perhaps inserted) diagonally to outer. The triangular corners thus left project slightly.

Class β . Round terminal.

2711 e. End incomplete. Length, 0.055 m. Diameter, 0.003 m. - 0.008 m. Tapers concavely. Heavy ring at base.

Discard of Class β : uncleaned, one.

8. SPEAR-BUTT.

2712. Broken at large end. Length, 0.115 m.

Bronze shell (thickness, 0.001 m.-0.002 m.). with iron filling to depth of 0.04 m. Remainder of filling probably bronze. Near molding at lower end, incised line (probably east).

Cf. Nat. Mus., Athens, No. 6866 (Acropolis).

9. PESTLE OR PLEKTRON.

2713. Uncleaned. Length, 0.115 m. Round shaft terminating at one end in molding, at the other in swelling. Thickness, 0.0034 m., increasing toward end to 0.0054 m. Decoration of head: convex surface with double ring beneath and single ring and cap above. Length of head, 0.017 m.

10. HOOKS.

A. FREE.

Type a. End of shaft turns up.

Class a. Plain handles.

2714. Uncleaned. Length, 0.07 m. Length of handle, 0.022 m.

Class β. Handle has eyelet at end.

2715. From upper terrace. Length, 0.283 m. Eyelet formed by flattening and bending back handle. Width of shaft, 0.0076 m. and less. Thickness, 0.0045 m., decreasing toward point, where it is 0.001 m.

Addenda to Type a. It is uncertain whether any of the following are hooks, but they bear a general resemblance in form.

2716. Condition poor, but probably about complete. Bent. Length, 0.155 m. Handle (length, 0.052 m.), shaft, and hook. Entire object could be regarded as a handle.

2717. Long end may be incomplete. Length, 0.146 m. Shaft partly rectangular, but mostly round. Thickness, 0.0045 m. and less.

2718. Long end broken. Length, 0.0775 m. Shaft irregularly rectangular. Thickness, 0.0045 m. square and less.

2719. Uncleaned. Broken at both ends. Length, 0.057 m. Shaft, 0.0065 m. × 0.0057 m. and less.

The following have hook at only a slight angle (obtuse).

2720. Uncleaned. Length, 0.16 m. Length of handle, 0.049 m. Shaft round. Diameter, 0.0045 m. and less. End pointed.

2721. Uncleaned. Both ends broken. Length, 0.085 m. Handle, 0.0035 m. square at beginning. Passes gradually to round and tapers toward end.

Type b. Shaft straight. No hook.

2722. End of handle as though hacked off with chisel. Length, 0.54 m. Length of handle, 0.129 m. Width, 0.026 m.-0.015 m. Thickness, 0.004 m. and less. Width of blade, 0.014 m.-0.01 m. Thickness, 0.007 m.-0.003 m. Decoration at beginning of handle and on one side only. Zigzag bounded on outer side by two straight lines. Between lines, faint diagonal line. Outside lines to break, short parallel lines along each edge.

B. ATTACHED.

All examples belong to one type.

Class a. Shaft rectangular and round.

2723. Uncleaned. Length, 0.084 m. Shaft, 0.0032 m. × 0.0035 m. Length of hook, 0.018 m. Gradual transition to round at elbow.

Discard similar to No. 2723: one.

2724. Uncleaned. Hook damaged. Length, 0.105 m. Shaft, 0.001 m. × 0.005 m. and less. Near elbow, passes to round. Length of hook, 0.015 m. Forms obtuse angle with shaft. Possibly not a hook.

Class β. Rectangular shaft.

2725. Length, 0.143 m. Shaft, 0.0043 m. × 0.0053 m. and less, decreasing toward point. Length of hook, 0.012 m.

2726. Length, 0.153 m. Shaft, 0.006 m. square near elbow, from whence decreases toward blunt point. Length of hook, 0.016 m. Size, 0.006 m. × 0.0065 m. at top, decreasing toward elbow.

2727. Both ends damaged. Length, 0.112 m. Shaft, 0.0045 m. × 0.005 m., tapering toward point. Length of hook, 0.02 m. Flat surfaces lie in diagonal planes, giving effect of section of a diamond.

Addendum to β. Uncertain whether the following is a hook or not.

2728. Both ends damaged. Length, 0.177 m. Shaft, 0.007 m., decreasing to 0.0038 m. at end. Length of hook, 0.03 m. Decreases in size from 0.0065 m. (elbow) to 0.0015 m. (point).

Discards: probably rather ends of spits than hooks: cleaned, two; uncleaned, one.

11. NAILS.

All the certain specimens have heads. Such as do not are classed as "*Addenda*."

Type a. Small, thin, flat head. Shaft round. (a'.) End pointed.

2729. Length, 0.118 m. Diameter of head,

0.008 m.; of shaft, 0.0063 m. Rectangular point.

(b'.) End blunt and flat.

2730. Uneleaned. Length, 0.0735 m. Diameter of head, 0.0088 m.; of shaft, 0.0065 m. End, 0.006 m. \times 0.0039 m.

Cf. two plain round nails from Mycenae (shaft-grave v, No. 842), with plain, small, flat heads and shaft that tapers to blunt point.

(c'.) End gone (hence pieces may be rivets).

2731. Length, 0.116 m. Head somewhat convex. Diameter, 0.0069 m. Diameter of shaft, 0.0065 m.

2732. Length, 0.112 m. Diameter of head, 0.0215 m.; of shaft, 0.014 m. and less.

Cf. nails from Mycenae, especially example cited s. n. 2730.

Discards of (c'): uncleaned, two.

Type b. Round thick head. Flat top.

Shaft rectangular.

2733. End gone. Length, 0.077 m. Diameter of head, 0.02 m. Thickness, 0.0025 m. Shaft, 0.006 m. square near head, elsewhere less. Uncertain whether head and shaft are of one piece.

Type c. Round thick head. Rounded top.

Shaft round.

2734. End gone. Length, 0.048 m. Diameter of head, 0.018 m. Thickness, 0.004 m. Diameter of shaft, 0.0055 m. and less.

2735. End gone. Length, 0.045 m. Diameter of head, 0.0195 m. Thickness, 0.0055 m. Diameter of shaft, 0.0048 m. near head, elsewhere less. Head of two parts, the inner rectangular, the outer round. Inner part of same piece with shaft. Size, 0.006 m. square on under side, 0.0067 m. \times 0.007 m. on upper.

Shaft round and rectangular.

2736. End gone. Length, 0.04 m. Diameter of head, 0.021 m. Thickness, 0.003 m. Shaft round in upper part. Abrupt transition. Size of rectangular part, 0.003 m. \times 0.004 m. Flattens toward break.

The following number is of uncertain use.

2737. Length, 0.038 m. Diameter of head, 0.015 m. Thickness, 0.003 m. Shaft round. Diameter, 0.0037 m. and less. Flattens in lower part. Was probably inserted and fastened by rivet which passed through hole at end. Shaft terminates in rectangle (0.006 m. \times 0.0065 m.), which projects slightly on under side of head. Remainder of head perhaps a separate piece.

Type d. Round thick head. Conical top (undeveloped).

Rectangular shaft.

2738. End injured. Length, 0.133 m. Diameter of head, 0.02 m. Thickness, 0.002 m. \rightarrow 0.005 m. Slightly concave on under side. Shaft, 0.005 m. and less.

2739. Broken near head. Diameter of head, 0.0215 m. Thickness, 0.0065 m. at centre, decreasing to edge. Under side flat. Groove near outer edge of top side.

Cf. *Olympia*, No. 1210 (hammered). According to Furtwängler, one example was found under the Heraeum in Olympia.

Type e. Solid round head resembling angular knob with grooved shaft.

Shaft rectangular.

2740. End gone. Length, 0.101 m. Diameter of head, 0.015 m. Top a smooth rectangular surface. Shaft, 0.0064 m. \times 0.007 m. and less.

Type f. Solid cubical head.

Shaft round.

2741. Uneleaned. End incomplete. Condition poor. Length, 0.08 m. Head, 0.0085 m. square. Thickness, 0.007 m. Shaft, 0.006 m. and less.

2742. Uneleaned. End gone. Condition poor. Length, 0.092 m. Head, 0.009 m. square on top and 0.007 m. at bottom. Thickness, 0.007 m. Shaft, 0.0065 m. \times 0.0055 m. and less.

Type g. Hollow round head with convex top.

Nail-shaft of iron.

2743. Short stub only of shaft remains. Diameter of head, 0.0285 m. Shaft, 0.007 m. \times 0.0085 m. Inserted into bronze socket which reaches to under side of head.

2744. Short stub only of shaft remaining. Diameter of head, 0.0475 m. Shaft, 0.007 m. \times 0.008 m. Inserted into low socket on under side of head.

Cf. *Olympia*, No. 1214. Iron nail.

Type h. Round hollow head with conical top.

Cf. gold tacks with rounded head from Mycenae (shaft-grave iv, Mus. Nos. 359, 371) and from Heraeum tomb, No. 3317; also bronze nails from Mycenae (not from shaft-graves), No. 2892, and from shaft-grave iii, No. 49. The last has conical head and is employed to hold together rosettes. All the above in Nat. Mus., Athens.

Plain.

2745. Shaft broken close to head. Diameter of head, 0.0227 m. Thickness of head, 0.008 m. Shaft stub, 0.0065 m. in diameter. What remains looks more like bottom of a socket the sides of which have been broken down. Remainder of shaft may therefore have been of iron.

2746. Shaft incomplete. Sides of head crushed flat. Length, 0.0525 m. Diameter of head, 0.012 m. Thickness, 0.012 m. Diameter of shaft, 0.0018 m. and less.

2747. From West Building. Shaft gone. Diameter of head, 0.0175 m. Thickness, 0.009 m. On under side, hole (diameter, 0.0015 m.) for insertion of shaft.

Ornamented.

2748. Shaft incomplete. Head in poor condition. Length, 0.107 m. Diameter of head, 0.034 m. Thickness, 0.036 m. At 0.004 m. and 0.009 m. from top of head narrow raised encircling bands. Near lower edge, shallow groove. Inside about two thirds filled with bronze and another substance (perhaps lead) to hold shaft. Shaft, 0.004 m. \times 0.005 m. and less.

PLATE CXXXIV.

2749. Shaft incomplete. Length, 0.10 m. Diameter of head, 0.062 m. Thickness, 0.035 m. Narrow raised bands near top and at bottom of cone and at top and bottom of outer edge. Surface of top slightly concave, of outer edge convex. Inside of cone half filled with bronze and perhaps a little lead (see No. 2748) for insertion of shaft. Shaft rectangular (0.0055 m. \times 0.006 m.) at first, afterwards round.

Cf. *Olympia*, No. 1220.

PLATE CXXXIV.

2750. About one third of flange gone. Shaft incomplete, and bent. Length, 0.148 m. Diameter of head, 0.063 m. Thickness, 0.062 m. Shape and decoration similar to that of No. 2749. Shaft, 0.006 m. \times 0.005 m. and less. Held in place by melted bronze.

Cf. nail from Necropoli del Fusco, *Notiz. degli Scavi*, 1893, p. 456.

Addenda to Types a-h. The following shafts probably had heads originally, but their form is uncertain. Possible that some are ends of spits.

(a'.) Round shaft.

Ends originally pointed, now rather blunt.

PLATE CXXXIII.

2751. Length, 0.104 m. Diameter, 0.006 m. and less.

2752. Length, 0.11 m. Diameter, 0.0085 m., decreasing toward flat point.

Ends blunt.

2753. Length, 0.058 m. Thickness, 0.0078 m. \times 0.0087 m., decreasing toward end.

2754. Length, 0.134 m. Thickness, 0.008 m. \times 0.007 m. at top, passing immediately to round and tapering toward end. Top smooth and possibly original.

Both ends gone.

2755. Length, 0.098 m. Thickness, 0.01 m. \times 0.011 m. and less.

(b'.) Rectangular shaft.

End originally probably pointed, now blunt.

2756. Length, 0.136 m. Size, 0.007 m. square, tapering toward end.

The following types are ornamental, and, with the exception of the first (**Type i**), of uncertain use and application.

Type i. Ornamental head developed from cone of Type h. No shaft.

PLATE CXXXIV.

2757. Injured at top and bottom, but practically complete. Length, 0.102 m. Diameter of bottom, 0.0685 m.; of top, 0.007 m. Lower edge preserved to depth of 0.006 m. in places. Flares outward. Under side hollow, but greater part of cone is solid. Ornamented with grooves, rings, and convex surface as in PLATE.

Cf. De Ridder, *Bronzes de l'Acropole*, No. 385.

PLATE CXXXIII.

Type j. Ornamental composite head.

2758. From back of South Building. Height, 0.024 m. Diameter of bottom, 0.0405 m.; of top, 0.018 m.; of waist of shaft, 0.01 m. Bottom smooth and slightly concave. Thickness of edge, 0.002 m. In centre, hole, 0.019 m. across and 0.006 m. deep. In top, hole, 0.01 m. \times 0.0085 m. across and 0.0035 m. deep, into which another section may have been fastened.

Cf. Nat. Mus., Athens, Nos. 7185, 7190, 7191, 7193, which are similar, and No. 7189, which has flat top (all from Acropolis). *Olympia*, No. 1224, has hole clear through.

Type k. Ornamental globular heads attached to round shaft.

Class a. Plain shaft.

PLATE CXXXIV.

2759. End gone. Bent (uncertain whether of original design). Length, 0.095 m. Diameter of head, 0.013 m.; of shaft, 0.0065 m.

2760. Shaft incomplete. Length, 0.039 m.

Diameter of head, 0.027 m.; of shaft, 0.0085 m. and less. Head represents bud or fruit.

Cf. *Olympia*, No. 1183 (apple on stem).

Class β. Shaft ornamented with heavy screw-threading.

2761. Shaft incomplete. Length, 0.05 m. Diameter of head, 0.024 m. Flat on top. Shaft (0.006 m. \times 0.007 m.) inserted into under side.

Addendum to Class β. Headless shaft.

2762. Neither end complete. Length, 0.078 m. Diameter, 0.0065 m.

Type 1. Elongated ornamental head with hole in end.

2763. Shaft which probably was of iron entirely gone. Length, 0.0465 m. Diameter at top and bottom rings, 0.013 m.; at centre, 0.02 m. Above top ring, extension with groove on each narrow side. Diameter of hole, 0.0025 m. In bottom, hole (diameter, 0.0045 m.; depth, 0.0039 m.). From hole grooves radiate to outer edge. General appearance, especially of hole, favors classification here rather than as pin-head.

Object of somewhat similar appearance from Megara Hyblaea published by Orsi, *Mon. Ant. Line.* I. col. 828, as a pendant. Not stated whether object has hole in bottom.

Type m. Ornamental head representing flower.

2764. Uncleaned. Shaft gone. Condition poor. Length, 0.027 m. Consists structurally of three parts (though all are of one piece). Upper part (length, 0.017 m.; sides, 0.009 m. square) has four slightly flaring petals, one at each corner. On outside of each petal, a smaller petal. Between petals, bud-like centre extending to top. In top, slight hole. Middle section (length, 0.005 m.; sides, 0.009 m. \times 0.01 m.) has two grooves (or three raised bands). Lower section (diameter, 0.008 m.) has small hole in bottom for insertion of shaft and two grooves about side.

12. BUTTON.

2765. About one third of head gone. Diameter, 0.0185 m. Length, 0.003 m. Thin rounded head. In centre of under side, heavy eyelet (diameter of hole, 0.001 m.).

Cf. button from uncleaned scraps from Aeropolis now in Nat. Mus., Athens. Similar buttons from Villa Benvenuti near Este found in cist-grave of ironage: Montelius, *Civ. Prim. It.* Text,

col. 292, fig. e. Likewise from Este: Ghirardini, *Mon. Ant. Line.* VIII. col. 27, pl. I. No. 31. In *Villa Papa Giulio*, § xxxv. (Rome), many bronze buttons, very similar, with eyelets underneath.

Discard: uncertain, one.

13. FASTENERS.

A. WIRE.

2766. Band damaged. Length of wire, about 0.255 m. Size, 0.0015 m. \times 0.0013 m. and less. Rectangular. Band, 0.027 m. \times 0.023 m. Small repoussé dots about edge, and two or three rows in interior running lengthwise. At present, band encircles only one end of wire.

2767. From Old Temple. Ends probably incomplete. Length at present, 0.062 m. Wire, 0.0022 m. \times 0.0014 m. (diamond-shaped section with obtuse angles softened). Irregular coil, from which proceed two arms on one side and one on the other. Their ends meet and are twisted about each other. Two pieces of wire, of which one forms the single arm and one of the pair.

Place of coil taken by bronze disk.

2768. None of the ends complete. Length, 0.059 m. Wire, 0.0027 m. \times 0.0015 m. near disk, decreasing toward ends. Section as in No. 2767. Disk (diameter, 0.0205 m.) has row of small dots about edge convex side uppermost. Rivet holds at back of disk three pieces of wire one on top of the other, passing through flattened ends of two and middle of the third.

Addendum. The following disk may have similar value to that of No. 2768.

2769. (Shows under side.) From back of South Building. Uncertain how much is lost. Diameter, 0.016 m. Thickness, 0.0015 m. On top, close to edge, groove. In centre, hole (0.0045 m. \times 0.002 m.) from which bar (0.0015 m. \times 0.0017 m.) projects 0.005 m. At back, bar seems to spread and hold wire in place.

B. CHAIN.

2770. From West Building. Uncertain whether and to what extent incomplete. Length, 0.038 m. Four links of horseshoe shape made of round wire and open at small end.

The following object is put here on the supposition that there were originally more links.

2771. Length, 0.0225 m. Rectangular and round wire. Tapers nearly to point at end of

larger loop — an objection to making this object a link of a chain.

C. EYELET OR HINGE.

2772. Both ends probably incomplete. Length, 0.0925 m. Two bars terminating in interlocked closed eyelets. Bar of eyelets rectangular (0.0065 m. \times 0.0025 m.), of shafts rounded rectangular.

14. CLAMPS.

2773. One cleat on under side broken off close to bar. Length, 0.09 m. Width of bar, 0.01 m.—0.0215 m. Thickness, 0.0025 m.—0.008 m. On under side at 0.018 m. from one end, and 0.028 m. from the other, small cleat.

2774. Length, 0.102 m. Thickness, 0.0045 m.—0.0067 m. On under side near each end (0.012 m., 0.009 m.), cleat. Height of each, 0.0135 m. Width, about 0.014 m. Thickness, 0.004 m. and 0.007 m.

2775. Length, 0.10 m. Width of bar, 0.039 m. and less. Thickness, 0.004 m.—0.007 m. Height of cleats, 0.013 m.

Hole in ends makes identification as clamp uncertain.

2776. (Shows under side.) One end probably incomplete. Length, 0.06 m. Width, 0.035 m. and less. Thickness, 0.0038 m. and less. Near one end, hole (diameter, 0.0075 m.). Groove on top nearly at right angles to sides.

15. CAPS.

2777. From back of South Building. Defective. Diameter, 0.077 m. Height, 0.026 m. and less. Upper edge bent slightly outward in parts.

2778. Defective. Condition poor. Sides bent flat against bottom. Diameter, 0.0717 m. Height of sides, 0.0115 m. and less.

2779. Found in South Stoa, April 24, 1895. Height, 0.06 m. Diameter, 0.077 m. and less. Thickness of sides, 0.007 m. and less. Near top, bronze rivet from side to side. On outside near top, shallow groove.

Different from Schliemann, *Tiryns*, p. 281, No. 120.

The following with ear or ears at side is probably to be put here.

2780. (Shows under side.) Defective. Height, 0.01 m. + 0.005 m. Diameter, 0.028 m.

On one side of top, ear (width, 0.01 m. Length, 0.006 m.). At base, hole (diameter, 0.003 m.).

The following objects of uncertain classification probably had similar use.

2781. From back of South Building. Defective. Diameter, 0.048 m. Toothed edge. In centre, convexity with hole (diameter, 0.005 m.). On same side, leaf pattern, at base of teeth and about centre.

2782. Perhaps from northeast corner of Old Temple. About complete. Height, 0.021 m. Diameter, 0.024 m. (top), 0.045 m. (bottom). Neck (length, 0.006 m.), beneath which, convex lower part. Perhaps coating of end of staff.

16. CENTREPIECE.

2783. Found back of South Building, 1894. Defective. Condition poor. Size, 0.053 m. Ends, 0.0115 m. square and less. Thickness of metal, 0.0015 m. Inside hollow. About ends on all sides except back, grooves, two about each end.

17. BINDING.

2784. From back of South Building. Ends broken. Length, 0.135 m. Width, 0.048 m. and less. Consists of two parts: upper ribbed flange, inner line of which is broken. The second part (same piece with top); length, 0.068 m.; width, 0.0275 m.; thickness, 0.005 m. at junction with upper part, from which decreases toward rounded edge. Under side flat; forms acute angle with upper part. Doubtful whether object can have been part of binding of shield rim, one objection being that original diameter was only 0.23 m.

18. DECORATIVE BRACES AND STRIPS.

A. STRAIGHT ORNAMENTAL APPLIED BRACES.

(Each object differs from the others in type.)

2785. Small end broken at nail-hole. Length, 0.045 m.

2786. Large end broken. Length, 0.049 m. Claw, length, 0.0065 m. rounded. Diameter, 0.005 m. at base, decreases toward end. Shaft rectangular, with beveled corners (0.0077 m. and less).

2787. (Shows reverse side.) Both ends probably defective. Nails broken close to surface.

Length, 0.221 m. Width of centre, 0.0235 m. and less. Thickness, 0.012 m. and less. At 0.009 m. from end, nail. Blade, width, 0.125 m. Thickness, 0.0064 m. Near centre, nail. At 0.015 m. beyond nail, on narrow side, round hole in shaft. Depth, 0.006 m. Diameter, 0.0035 m. Perhaps cross brace of grating or, more likely, leg of small chair or bed. Cf. lower part of leg of bed in archaic relief from Tegea (Ibrahim Effendi, *Ath. Mitth.* IV. p. 136, pl. vii. Milehhöfer).

B. CURVED ORNAMENTAL APPLIED BRACE.
PLATE CXXXV.

2788. One end broken. Length, 0.221 m. Width, 0.051 m. and less. Thickness, 0.027 m. Ribs raised above surface, 0.0045 m. Near whole end, nail (diameter, 0.006 m.). On under side, hole filled with iron rust. Hence only head is of bronze. At 0.085 m. from first nail, second nail of bronze. Object cast solid, but with many flaws which show on under side. Diameter of protracted circle (inside), about 0.955 m. This and similar objects probably applied to edge of large kettles or caldrons, like the small pieces Nos. **2188**, etc. See, however, *Olympia*, Nos. 1229 f., which are very similar in shape but smaller. Several similar pieces, both larger and smaller in Nat. Mus., Athens, among scraps from Acropolis (uncleaned). In Museum of Florence similar small ornaments, but not flat on one side (Tomba a circolo di Poggio alla Guardia, 1895).

C. STRIPS AND RODS.

Type a. Triangular, the widest side being applied.

2789. One end broken. Length, 0.168 m. Sides, 0.0075 m., 0.0042 m., 0.004 m. End undercut on wide side, probably for purpose of fastening.

2790. One end gone, the other defective. Length, 0.146 m. Sides, 0.0078 m., 0.0043 m., 0.0052 m. Single engraved line near outer edge of each of short sides.

2791. Both ends broken. Length (arc), 0.0585 m. On each of narrow sides, line close to each edge; in interior, broad, rounded, obtuse-angled zigzag of bent lines. Both ends turn slightly outward, hence best put here.

Discards of Type a : uncleaned, two.

Type b. Quadrangular (two acute and two obtuse angles).

Manner of application differs from that of

objects of preceding type, one of the obtuse angles being applied.

2792. Uncleaned. Both ends gone. Length, 0.173 m. Thickness, 0.0035 m. \times 0.0024 m. One end flattens from near break. At break, hole (diameter, 0.002 m.). Shows manner of application and fastening.

2793. Uncleaned. Both ends gone. Length, 0.245 m. Width, 0.0036 m. \times 0.0025 m.

2794. Uncleaned. Length, 0.241 m. Forms at centre 8-shaped loop.

Discards of Type b : uncleaned, two.

Type c. Quadrangular. Right angles.

Manner of application uncertain.

2795. Uncleaned. Ends gone. Length, 0.085 m. Sides, 0.002 m. \times 0.0005 m.

2796. Uncleaned. Length, 0.164 m. Sides, 0.0024 m. \times 0.0007 m. and less.

2797. Ends gone. Length, 0.093 m. Width, 0.0035 m. and less. On both sides, rough groove.

2798. Uncleaned. One end broken. Length, 0.084 m. Width, 0.0035 m. and less. Near wide end crossed at right angles by heavy grooves.

2799. Uncleaned. Ends gone. Length, 0.067 m. Width, 0.0055 m. Thickness, 0.0015 m. Near one end, four small fragments of sheet gold, three of which rest on bronze incrustation. This incrustation, and consequently the gold fragments, belongs to some other piece of bronze.

Type d. Flat, quadrangular (as in preceding type), and round shaft combined.

2800. Uncleaned. Ends gone. Length, 0.19 m. Shaft rectangular and round. Size, 0.0053 m. \times 0.0008 m.

Probably also: **2800 a.** Uncleaned. One end gone. Length, 0.21 m. Shaft rectangular and round.

Type e. Round shaft, plain.

Manner of application uncertain.

2801. Large end broken. Length, 0.053 m. Diameter, 0.003 m. and less. Use uncertain. Placed here because of similarity to following number.

2802. From West Building. One end broken. Length, 0.25 m. Diameter, 0.0047 m.

2803. Uncleaned. Both ends gone. Length as bent, 0.044 m. Diameter of shaft, 0.0038 m.

Type f. Shaft round (or nearly round), with coil at one end.

Class a. Plain.

2804. One end gone. Length as bent, 0.025 m.

Diameter of shaft, 0.0008 m. Uncertain whether loop is original.

Class β. Chord flat for application. Remainder of circumference has interrupted rope pattern. Coil plain.

2805. One end gone. Length, 0.152 m. Diameter of shaft, 0.0033 m.

Type g. Round shaft consisting of three plain strands twisted together.

2806. Both ends gone. Length, 0.086 m. Diameter, 0.0033 m.

2807. Both ends gone. Length, 0.134 m. Diameter, 0.004 m.

2808. Both ends gone. Length, 0.189 m. Diameter, 0.0037 m.

19. INSERTED DISKS.

Type a. Plain.

2809. Cracked nearly through. Diameter, 0.069 m. Thickness, 0.0043 m. and less. On both sides, slight depressions which look like marks of hammer.

Type b. Ornamented simple disk.

2810. Split by corrosion into several laminae. Diameter, 0.062 m. Thickness, 0.006 m. On outside, rosette, the centre of which is slightly concave; reverse plain.

Type c. Plain, with dowel at back for insertion.

2811. Diameter, 0.0062 m. Thickness, 0.0042 m. Length of dowel, 0.021 m. Disk and dowel of one piece. Cast.

Addenda. Composite disks.

2812. From back of South Building. Defective. Lead kernel nearly intact. Bronze covering mostly preserved. Diameter of leaden part, 0.051 m. Thickness, 0.0053 m. Bronze follows conformation of outer surface.

2812 a. Uncleaned. Lead kernel nearly complete. Bronze only partially preserved. Similar to preceding. Diameter, 0.0525 m.

20. OTHER DECORATIVE ATTACHMENTS AND FRAGMENTS.

2813. One end gone, the other defective. Length, 0.085 m. Width, 0.0105 m. and less. Sides slightly convex. Manner of attachment uncertain.

2813 a. Uncleaned. Similar to No. **2813.** Length, 0.039 m.

2814. Top broken. Height, 0.043 m. Di-

ameter, 0.055 m. Five layers of bronze, decreasing toward top. Diameter of uppermost layer, 0.015 m. Bronze part forms thick conical shell, into which is inserted from bottom solid cone of lead. This cone projects 0.006 m. below bottom, and partially overlaps inner edges of bronze. On top, mass of iron oxide, probably remains of rod which held object as pendant.

2815. Both ends broken. Length, 0.175 m. Width, 0.022 m.

2816. Both ends broken. Length, 0.042 m. Stem with short blade. Width of stem, 0.0097 m.; of blade, 0.0145 m. Blade curved.

21. SUPPORTS.

2817. Found at east end of south slope, April 24, 1893. Height, about 0.125 m. Length of foot, 0.017 m. Width, 0.016 m. Upper part of shaft rectangular. Lower part round.

2818. Uncleaned. Top damaged. Height, 0.088 m. Length of foot, 0.01 m. Width, 0.005 m. Formed by cutting back shaft and bending end. Diameter of shaft, 0.005 m. and less.

2818 a. Fragment. Height, 0.0225 m. Width, 0.011 m.

22. RODS.

Solid.

2819. From West Building. One end broken. Length, 0.476 m. Diameter, 0.006 m.

Hollow.

2820. From south slope. One end broken. Length, 0.121 m. Diameter, 0.01 m. Complete end nearly triangular. Elsewhere, rounded. Open cylinder. Edges do not form straight line.

Filled.

2821. Both ends gone. Shell cracked entire length. Length, 0.123 m. Diameter, 0.023 m. Interior filled with iron rust and another substance which is probably part of core.

23. BARS.

Plain.

2822. From back of South Building. One end broken. Length, 0.06 m. Width, 0.023 m.-0.041 m. Thickness, 0.0033 m. and less.

2823. Length, 0.0735 m. Width, 0.022 m. and less. Thickness, 0.0047 m. and less.

2824. One end damaged. Length, 0.10 m.

Width, 0.013 m. Thickness, 0.0095 m. and less.

2825. Condition poor. Length, 0.06 m. Width, 0.025 m. and less, especially toward one end, which terminates in rounded beveled point.

2826. From south slope. Both ends gone. Length, 0.044 m. Width, 0.018 m. and less. Inscribed.

2827. Both ends roughly cut off. Length, 0.084 m. Width, 0.02 m.-0.0215 m. Thickness, 0.0065 m.-0.0085 m. For inscription see *Appendix*.

24. BALL.

2828. From West Building. Diameter, 0.014 m.

25. CASTINGS.

A. PARTIALLY FORMED OBJECTS.

PLATE CXXXVI.

2829. Standard and paw. Height, about 0.154 m. Height of standard, 0.112 m. Diameter of top of standard, 0.088 m. Attachments cast in one piece with standard: 1. From a point 0.03 m. below top of standard rises diagonally lion's paw with four toes. Toes have claws. From heel projects round stub (length, 0.018 m.; diameter, 0.013 m.). This stub perhaps marks pipe through which bronze was poured. 2. Near top of standard, oblong rounded attachment in line with paws. Length, 0.026 m. 3. From middle of upper part of standard, on opposite side from preceding attachment, round stub rising diagonally.

2830. Crimped arc. Length, 0.109 m.

Width, 0.035 m. and less. Thickness, 0.01 m. and less. Top side has ornament of slightly raised rays which do not quite reach outer edge. Inner edge beveled.

2831. Convex-concave arc. Outside diameter, 0.083 m. Width of ring, 0.031 m. and less. Thickness, 0.005 m. and less.

2832. Perhaps part of mold. Size, 0.057 m. \times 0.035 m. \times 0.009 m. In edge, outlines of at least three circles, of which only the largest shows trace of bottom.

2833. Bar. One end complete. Size, 0.087 m. \times 0.027 m. \times 0.01 m.

2834. Segment of sphere. Width, 0.072 m. Thickness, 0.037 m. and less.

2835. Uncleaned. Fragment of sphere. Entire surface rough. Diameter, 0.253 m.

B. CASTINGS WHICH PRESENT ACCIDENTAL RESEMBLANCES TO VARIOUS OBJECTS.

2836. (Penis.) Length, 0.083 m.

2837. Bird. Height, 0.04 m.

2838. (Binding for corner.) Length, 0.063 m.

2839. (Saddle.) Height, 0.046 m. Length, 0.05 m.

C. FORMLESS CASTINGS.

2840. Length, 0.14 m. Width, 0.12 m. Thickness, 0.004 m.

2841. Condition poor. Size, 0.085 m. \times 0.06 m. \times 0.008 m.

Discards of C: six, of which one from West Building.

Other discards. Here belong a number of pieces, partly castings, partly pieces of sheet bronze, which have been partly melted and fused together, or mixed with other substances, as lead, rock, sand. Most of them show action of fire. Uncleaned, seventy-eight, of which two from back of South Building, near retaining wall.

APPENDIX

INSCRIPTIONS ON THE BRONZES

964. PLATE LXXXIX. (photographs). Two copies below. The second, on reëxamination, seemed to represent more accurately the actual condition of the bronze. Letters scarcely legible. Height, about 0.003 m.

ΘΥΣΤΙΑ ΤΗ ΕΛΛΑΔΙΟΥ

ΘΥΣΤΙΑ ΤΗ ΕΛΛΑΔΙΟΥ

(1) Θυστία[ς] τ[η][ς] Ελλαδι[ου]

(2) Θυστία[ς] Ηελλαδι[ου]

Translation: (*Property*) of *Thystia*, daughter (or wife) of *Helladios*.

Θυστία[ς]: does not seem to occur, but Hesychius has *θύστης* (quoted by L. and S.) and *Θυστάδες* (quoted by P.-B.). Cf. also Θ[υ]σσίδαι, *Athen. Mitth.* IX. p. 321 (Ceos), *Ἐπίτε[υξίς] Θυσίας*, *Arch.-Epig. Mitth. aus Oest.* XI. p. 181, and *Θύσων*, *Ἐφ.* Ἀρχ. 1883, col. 215, l. 125 (the last two also in P.-B.). For -σστ- see G. Meyer, *Griech. Gram.* p. 304, Brugmann, *Griech. Gram.* § 100, 1 a and § 119, 1. — τ[η][ς]: it seems better to assume a blank space between the words than to supply this word, which is not of the Argive dialect. — *Ἐλλαδι[ου]*: see P.-B. s. v. and also *C. I. A.* III. 1343, *C. I. S.* 53, 179. Another possibility would be *Ἐλλανί[ο]ν* or *Ἐλλανί[ο]νος*, but the nominative case of the former is an objection, and for the latter there is hardly space. The word occurs *B. M. I.* III. § 1, p. 65 (Iasos), *Ἐλλανίων Ταρσεύς*.

1581. PLATE XCVI. (photograph and drawing). Copy below. Retrograde-boustrophedon, beginning

ΘΑΙΟΙ ΚΙΝΚΟΞ
Ο
ΑΡΙΣΤΕΙΑ ΕΚΕ

with lower right corner. Height of letters, 0.002 m.—0.0047 m. Letters in lines 1 and 2 increase in size with the direction of the writing.

The letters of the first line are very legible, inasmuch as they are clearly cut and well preserved. Those of the second line, however, have been nearly effaced by the oxidation of the bronze, and were ex-

tremely difficult to decipher. Nevertheless, the forms of the letters as given in drawing and copy are for the most part fairly sure. The single letter of the third (middle) line is faint but certain.

Αριστεία Εκε | θαιοι(?) ανεθεκ | ε

Translation: *Aristeia* offered (me) on behalf of *Ekethaio*.

For *Ἀριστεία*, cf. *C. I. G.* 155 (Attic), quoted by P.-B., and there accented *Ἀρίστεια*. The first letter of the second (top) line may be either θ or φ, but the balance of probability is in favor of θ. Neither *Ἐκεθαίω* nor *Ἐκεφαιώ* seems to occur. For *Ἐκεκλῆς*, *Ἐκεφίδης*, *Ἐκέφυλος*, which present the nearest analogy, see *B. C. H.* Index. The reading of the word as a feminine form from an *oj-* stem instead of a masculine form from an *o-* stem is arbitrary. Dedication on behalf of another person in an inscription from Athens published by Körte, *Athen. Mitth.* XXI. p. 294, *Μνησιπτολέμη ὑπὲρ Δικαιοφάνους Ἀσκληπιῶ Ἀμύνῳ ἀνέθηκε*. That *Ekethaio* or *Ekephaio* is an unknown name of a person is more probable than that it is an unknown epithet of Hera.

1746. PLATE CII. (photograph). Drawing below. A single letter. Height, 0.008 m.

Initial letter of *Ἡρας* or *Ἡραι*. Cf. No. 1985, and B. M. *Catalogue of Greek Coins, Peloponnesus*, Intro. p. lv.

1824, 1825. PLATES CVI, CVII. (photograph and copy). Retrograde. Height of letters, 0.0055 m.—0.008 m.

λλ { φ
μ } αδ { οζ

The reading makes it probable that the fragments are to be combined, in spite of the difficulty of adjustment. This part of the inscription probably contained names only. It is probable that the fathers' names were added in a second column at the left, but even if they were placed under the names of the sons, the first name on the fragment, as next to the last, would still be in the nominative.

The first name is probably *Φιλίας*, cf. *C. I. G.* 1514 (cited by Pape-Benseler), *Πιστικλῆς Φιλία*; *C. I. S.* III. i. 446 (Stratos), l. 4. *Φιλίας Τηλαγέος*,

or Φιλλίδας, cf. *C. I. S.* III. i. Appendix, 1066, l. 2, Φιλλίδα; *B. C. H.* V. p. 413, No. 22, l. 3, Τίμων Φιλλίδα Ἀμφιστεῦς; *ibid.* p. 414, No. 23, ll. 14, 15, Φιλλίδας. It may also have been Φίλλης. Cf. *B. C. H.* Index, 1877–86, and vol. XX. p. 206 (Delphi), l. 35, Φίλλης Ἀργεῖος, Φίλλης Ἀργεῖος. For Φιλλίδας and Φίλλης in literature, see P.-B. The second name is probably the nominative, possibly the genitive, of Σώδαμος. Cf. the indices to the various *Corpora*, and to *B. C. H.*, and Ἐφ. Ἀρχ. 1883, col. 29, No. 9 (Epidauros), Νικάταν Σωδάμον. An Argive named Σωδάμας is mentioned by Paus. III. ix. 8 (quoted by P.-B.).

Double writing of consonants is the rule for Argive inscriptions which have four-stroke sigma, so even in *A. J. A.* XI. p. 43, l. 5, Ὑλλεύς. In those which have three-stroke sigma there are no cases in point. Those which use *san* write but one consonant in cases of gemination. Cf. *I. G. A.* 30, l. 5, and Nos. 1826, l. 9, Ὑλλεύς, and 2252, ἐ Σικελίας. It follows that for the period to which an Argive retrograde inscription would naturally be assigned the single consonant should be expected. The double writing of the consonants in this inscription, taken together with the style of the letters, makes it probable that this is an exceptional example of retrograde writing at a later period. Cf. the retrograde writing of names of Argive kings on the hemicycle on the north side of the sacred way at Delphi. *B. C. H.* XVIII. p. 186, and Frazer on Paus. X. x. 5.

1826.¹ PLATES CVI. (photograph) and CVII. (drawing).²

1. φ(ορ ρ)αθματα :: τ· αδεν :: λαγνο-
2. [h]ε συνεχτοι :: τας αρas :: τας
3. γας :: τας Αργειας :: τα δε παμ[ατα
4. -κα [θ]ανατον :: ηε αλλο τι καρον :: h-
5. ε[π[ιτ]εχνιτο :: ε[h(?)ο]ι εισζει :: [τ or ρ]ο-
6. -ος :: προ[π(?)ρ]ο[ρ(?)]ος :: εεπρια-
7. αι δε μ]ε δαμιο[ρ]γοι τις :: hoi[s (?)
8. -ς] Αργειας :: και hoi φοι ε-
9. -ο :: τοι Ηυλες :: αποδομ[ενοι
10. γας :: Αργειας γα :: κατακ[α-
11. -γνον φοι εστο :: ποι τας Η[ερας

The interpretation depends to a considerable extent on the view which may be taken of the dot after τ in the first line. Rogers, who thinks it an attempt to puncture the plate for a nail-hole (*l. c.* p. 166), and Fränkel disregard it in reading, and join τ to what follows. The reading thus obtained, τὰδ' ἐν, is easy and plausible, and there are examples of allowance of space for nail-holes.³ Preparation for the nail

by means of a carefully worked indentation is a somewhat different matter; and until examples are found for it, it may be well to look for some other explanation, especially as in this case the indentation was not actually used for such a purpose. The analogy of the Locrian inscription (*I. G. A.* 321), where letters (usually prostrate) with three dots on either side serve as a means of numbering the paragraphs, suggests that :: τ· in this inscription may have a similar use. In this case the letter would probably introduce the last paragraph in the document, namely, that containing the sanctions. If so, additions to the main body of the document are not to be expected, but simply measures to secure the fulfillment of the provisions of the preceding paragraphs.

Line 1. φαθματα: for the slight preference in favor of φ as against ρ, see above *s. n.* For φασματα with substitution of -σμα for -θμα, cf. Brugmann, *Griech. Gram.*³ p. 186. In the absence of the preceding context, it is uncertain whether the word is complete as it stands, and, if so, in what sense it was meant. Nor is it possible to look forward for a reference, if the above hypothesis regarding the paragraphs be correct. The termination would also fit ἐφάσματα. Α*φάσματα like φήμη, fāri, Sansk. bhā-ti, seems not to have existed in Greek. Rogers and Fränkel take the initial letter to be ρ. The former suggests (*l. c.* p. 165) γράθματα = γράσματα = γράμματα, δράθματα = δράσματα · συνθάματα, ἀγοράσματα, and (*l. c.* p. 174) ιαρθάματα. In understanding γράσματα (< γράθματα) as γράμματα he agrees with Robert (to whom he refers), who thus interprets γρασμάτων in the inscription from Hermione (*Mon. Ant. Linc.* I. col. 598). Neither indicates the process by which *grāthi-ma becomes γρα-θμα or γρα-σμα.⁴ Fränkel reads -ρ or ο]άθματα without explanation. To these conjectures may be added ῥάθματα = *ῥάσματα = ῥάμματα (*C. I. G. S.* 2421). For the sense of this, as also of ἐφάσματα above, cf. the prescriptions for dress in the sacrificial inscription from Andania (Cauer, *Delectus*² p. 33, No. 47). However, as in the case of γρα-θμα above, it is difficult to account for the substitution of suffix-initial θ or σ for the final labial consonant of the root without a somewhat extensive and perhaps unsafe application of the principle of analogy. —αδεν: if this word begins the paragraph, it can scarcely be anything but ἀδέν (in sense of δεόχθαι) or ᾗδεν⁵ (in sense of ἔδοξεν), from ἀνδάνω. The difficulty with regard to the breathing is pointed out by Rogers, *l. c.* pp. 163 f.; nor do examples of ψίλωσις like Ἰπ(π)ομέδων, *I. G. A.* 30 (cited by Kühner-Blass, I. p. 109), and Ἡρας, ἱαρομνάμονες, *A. J. A.* XI.

¹ Published by J. D. Rogers in *A. J. A.*, Second Series, V. (1901), pp. 159 ff., and by Max Fränkel in *Insc. Argol.* No. 506 (*I. G.* IV.).

² By E. Gillieron.

³ See Rogers, *l. c.* p. 167. Add the inscription from Olym-

pia published in the *Jahreshefte d. Oesterreich. Arch. Instituts*, I. p. 197 (Szanto).

⁴ For a discussion of this word see Helen M. Searles, *A Lexicographical Study of the Greek Inscriptions*, s. v. γράσμα.

⁵ Mentioned as a possibility by Rogers, *l. c.* p. 163.

(1896), p. 43 (cited by Rogers), quite suffice to obviate it. — ἀγνὸ[ν(?)] : as the amount of text lost at the sides of the plate is uncertain, it is useless to try to fill out the lines. From the position of the word and that of συνχέοι below, it may be that the sense of the beginning of the sanction was something like ἀγνὸν τὸ ἄδος τοῦτο· αἱ δὲ τις ταῦτα παρβαίνοι λιη συνχέοι κ.τ.λ.

Line 2. συνχέοι : L. and S. s. v. II. 2. Cf. *I. G. A.* 500, τὸν νόμον τοῦτον ἦν τις θέλη [συγ]χέαι ἢ προθη-
τα[ι] ψήφον ὥστε [μὴ εἶ]ναι τὸν νόμον τοῦτον. Slightly different in sense in the inscription of the Labyadae, *B. C. H.* XIX. p. 12, l. 28 (Homolle). — ἀρᾶς : genitive. The apodosis begins here. The form τᾶς ἀρᾶς τᾶς shows that a definite curse, described in the missing part of the line, is meant. For similar formulæ see Rogers, *l. c.* p. 168. Something like ἐνοχος ἔστω may be supplied with Rogers. Cf. Caner, *Delectus*,² No. 430 (Eresos), A II. 24 f. [κ]α[ι] τᾶλλα ἐ[ν]οχος [ἐ]στω τῷ νόμῳ [τῷ or τῷ ἐπὶ τῷ] τὰν στάλλαν ἀνελόντι; also D I. 16, ἐνόχοι[ς] ἐμμε[ν]αι τῷ νόμῳ (dative or genitive). Specimens of ἀραί (public), *I. G. A.* 497 (Teos) and (private), *C. I. A.* III. ii. 1417–1420 (Herodes Atticus); cf. Wuensch, *C. I. A.* Appendix, p. ii., and Ziebarth's article there cited, 'Der Fluch im Griech. Recht,' *Hermes*, XXX. (1895), pp. 57 ff., where other examples are given.

Line 3. Besides inclusion in the curse mentioned above, the culprit is to be banished from Argive territory and his property (πάμ[ατα] is to be confiscated. Cf. the tablet from Hermione above mentioned, l. 5, ἰ τρέτω καὶ δαμειέσσοθῷ : ἐνς | Ἀθαναίαν :. Rogers quotes appositely, *I. G. A.* 500 (Halicarnassus), ll. 35–37.

Line 4. -κα [θ]άνατον or κα[ι] ἄνατον, Rogers. κ[α] [θ]άνατον, Fränkel. There is sufficient trace of concavity in the edge at the left of α (see *s. n.*) to make it likely that θ is the correct reading. There is room for κα[ι] θ, but the letters would be somewhat more crowded than they are in other parts of the line. -κα [θ]άνατον is therefore epigraphically preferable. So far as concerns the context, it is too scanty to afford a sure basis for choice, but it is at least clear that the verb of which [θ]άνατον is the object cannot be directly connected with the verb of which πάμ[ατα] is the subject, because death is not a penalty which can be inflicted after confiscation of property and banishment. Some new set of circumstances must intervene. On the other hand, consistency with the general view of the inscription taken above requires that the [θ]άνατον λιη ἄλλο τι καὶ ὄν refer to the same person with the subject of συνχέοι. It is probable, then, that the commencement of a new clause or sentence has been lost, and that if there is a connective before [θ]άνατον, it joins the verb on which [θ]άνατον depends with the verb of a lost preceding clause of similar purport, i. e. ['If any one should . . .] and [should contrive] death or any other harm [against

the exile.' Unless a full clause be supplied before [θ]άνατον, some other reading than κα[ι] must be found, an adverbial use being unlikely. Rogers suggests πο[ι]ά, which would be suitable, and, taking the scantiness of space into account, is to be preferred to κα[ι]. — h- : it is useless to try to complete the word. Rogers suggests h[στω]ν and h[ᾠτινι] (*l. c.* p. 169).

Line 5. For the first word Rogers and Fränkel have ἐ[π]ι[τ]εχνῶιτο, which the former takes directly with καὶ ὄν. The reading is probably correct, but the combination with καὶ ὄν, though it makes good sense, is rendered doubtful by the lack of evidence as to the length of the lines. It seems reasonable to suppose that the verb is in protasis, but so far as concerns its position it might also be in apodosis, as the expression of a wish or curse: only, in that case, some other reading would have to be found, — something more plausible than ἐ[π]ι[τ]εχνῶιτο (cf. Pamphylian *ἑχέ-τω*, *I. G. A.* 505, l. 24; G. Meyer, *Griech. Gram.*² sections 198, 240; Prellwitz, *Etymolog. Wörterbuch*, s. v. ὄχος; Searles, *op. cit.* s. v. *ἑχέω*), or κατα-
π[σ]ήχνοιτο (but the existence of a ψ in epichoric Argive is rendered probable by the presence of φ, and by the occurrence of a ψ among the builders' marks on the stereobate of the New Temple; cf. Brownson, *A. J. A.* VIII. p. 219), neither of which has been found in Greek. Unfortunately, the following clause is itself so mutilated and difficult as to afford no assistance. Here Rogers reads (*l. c.* p. 174) ἦ[το]ι *ἑσείη* or ἐ[ν] ὦ *ἑσείη*, and Fränkel, ἐ. *οἰσείει*, with the remark, "ἐ[π] (sive ἐ[ν], ἐ[ξ]) *οἰσείει* (sive -σείη) explicite peritiores." The lacuna after the first letter of the clause preserves the outline of a letter at each side, that at the left being either ο or θ, as is evident from shape and size. Between it and the opposite edge there is space for one letter of average size, or for two letters, if one were ι, and the other a narrow letter like κ, γ, or λ. Of the letter at the right there remains the right bevel of a full-length vertical hasta. It is also beveled at the top, contrary to the custom of the inscription in the case of the ends of strokes, and continued horizontally to the left for about 0.0005 m., thus making it probable that the vertical hasta was met by a stroke which joined it from the left, and, more likely than not, at right angles. The letters which correspond best to these indications are Γ, Θ, Δ, and Ϛ. It will be seen at once that Γ (as in ἦ[το]ι) is impossible, nor are the conditions favorable for the letters with slanted tops, as Ϛ, ϛ, ι, etc. This fact and the doubtful *ψίλωσις* seem to render ἐ[ν] ὦ very improbable. Of the indicated letters, δ and ρ seem to yield only optatives, e. g. *ἐ[δ]οι, ἐ[ρ]οι, the relation of which to the context would be difficult of explanation; π also leads to a series of improbabilities, e. g. (1) ἦποι for ἦπον, which involves difficulty of

form and sense; (2) *ἐποι for ὅποι, which might be construed with a following optative, but does not occur, and cannot well be invented because the pronominal root *o* (Brugmann, *Grundriss*, II. p. 768, *Griech. Gram.*³ p. 243; cf. G. Meyer, *Griech. Gram.*³ p. 179), apart from its rarity in Greek, is not used to form relatives; (3) *ἐποι for ἐπεί (cf. οἴκοι: οἴκει), also construable but also non-existent, and in use contrary to the other conjunctive-adverbial forms in -οι. There remains *h*, with which it might be possible to read ἐ[hō]ι (sc. ἐν hōι), provided the absence of the -ν could be explained. As we have no right to assume errors in an inscription so carefully cut, and as assimilation of ν before *h* is out of the question, it seems necessary to assume a parallel form ἐς, derived from ἐνς (cf. the inscription, *Mon. Ant. Line. I.* col. 594, l. 5, of an earlier period than *I. G. A.* 38, l. 4, -ανς τάνς), in accordance with the principle stated by Brugmann (*Griech. Gram.*³ p. 75, 3), and like ἐν used with cases of rest. Proclitic preposition and object forming practically one word, the -ς would become medial between vowels and change to -h according to the principle also exemplified in *I. G. A.* 38, so that ἐθ- would represent ἐ(h)h. — What follows is read by Rogers *ἑσζείη* and explained as *εἰδείη*. Context and usage make this interpretation seem very probable. The presence of σζ(ζ) is, however, difficult to account for (*εἰδ-ε(σ)-ιη*). Elean *ἑεζώς* is, of course, of no assistance because of ζίκαιος, etc. (Cf. G. Meyer, *Griech. Gram.*³ p. 269.) The weak form of the root seems to encourage the conjecture that we may possibly have here a trace of the direct application of the optative suffix (*ιη*) to the root (*εἰδ*), the sibilant thus produced being afterward extended to the sigmatic aorist. Cf. Brugmann, *Griech. Gram.*³ p. 337, and *Grundriss*, II. p. 1302. Rogers also suggests and rejects “*ἑς (γῆς . . . ὠχός, Hesychius) ζείε (*ζῆμη).*” To add another improbability, it might be possible to think of a **εἰς*, nominative of *εὐλ*, *εἰν* (large inscription from Gortyna, col. II. 40; Rochl, *Imagines*, p. 45, No. 6 = Roberts, *Introduction to Greek Epigraphy*, No. 304 a), as a parallel form of ζ, Sophocles, *Frag.* 427 (Nauck), cf. Kühner-Blass, I. pp. 583, 595 f., G. Meyer, *Griech. Gram.*³ p. 508, n. 1. — At the end of the line Rogers reads, *φο[θαρός or το[ῦτον*, and Fränkel *[τ(?)ο-*. As has been stated before (*s. n.*), conditions of space and preservation admit τ, ϑ, or υ, with slight, if any, preference. Beyond the ο the edge has a vertical bevel, 0.0105 m. in length, showing that the right hasta of the missing letter was a straight upright stroke. This renders both θ (*φοθαρός*) and υ (*τοῦτον*) impossible. Owing to the position it is unlikely that the indirect object of ἐπι[τ]εχνῶιτο (e. g. *[τ]ῶ[ι φυχάδι, [τ]ο[ῖς φυχάσι, [τ]ο[ῖς Ἀργείοις]* is to be supplied. It is more probable that this is the beginning of the apodosis, which stated the contemplated result of the preceding clause, i. e. reward

if the action of ἐπι[τ]εχνῶιτο was directed against the exiles, punishment if it was directed against state or people.

Line 6. As Rogers has remarked (*l. c.* p. 170), the line treats of property (presumably the πᾶμ[ατα of l. 3), which is to be bought. The word ending in -ος at the beginning evidently designated the person who was to have the first right of purchase. Rogers infers *δαμοργ[ος]* from the following line, or, with less probability, *ὁς ἔχων μέγιστον τέλ[ος]*. — For the following word Rogers reads *πρό[γ]ρο[φ]ος*, Fränkel, *πρό[τ]ρο[π]ος*. As the left side of the hole terminates with an upright bevel with no trace of protraction of a top-bar to the left, the latter reading is impossible. The former reading is plausible so far as concerns the sense, but it is rendered doubtful by the fact that the upper edge of the hole, while it can scarcely be said to be beveled, is nevertheless horizontal, and suggests cleavage along the line of a horizontal stroke. Furthermore the point of departure of a downward stroke seems to be visible in the upper edge at about 0.0055 m. from the left hasta. As there is no trace of a corresponding stroke on the under side of the lacuna, the letter thus outlined could not well be other than Γ. If this is correct, it is not easy to see just what the reading was. Setting aside evident impossibilities like *προ[π]ρό[δ]ος* [h]ος and *πρό[π]ρο[κ]ος*, one might perhaps think of *λε[π]ρο[ρ]ος* on a bronze basis from Ligourid, from which Kretschmer in *Jahreshefte*, III. pp. 134 f., evolves *πρωροί* (for *φρουροί*). But that the person designated could be qualified as *πρόπρωρος* even in a transferred sense, or the action of the verb as *προπρώρος* (i. e. ‘as a precautionary measure’), seems a hazardous supposition. — The condition of the bronze at the end of the line is described *s. n.* As there is an upright bevel at the right edge of fragment d, it is possible to read *ἐξπριά[σθω]* with Rogers, or *ἐξπρία[ιτο]* or *ἐξπριά[μενος]*. The first is preferable. For -u- see on next line.

Line 7. αἱ δὲ μ]ῆ δαμο[ρ]γοῖ τις: so Rogers and Fränkel, except that at the beginning they bracket only the first letter, inasmuch as the letters ι δε (qu. and μ?) were traceable when the plate was found (cf. Rogers, *l. c.* p. 160). — *δαμο[ρ]γοῖ*: with the -u- cf. *ἐξπρια-* above, *Καρνεύας* (1877), *Σικελίας* (2252), and the *ἄλιος γέρον* inscription *I. G. A.* 34 (= Collitz, *S. G. D. I.* No. 3261 = *Olympia*, IV. pp. 101 ff., pl. xxxix., V. No. 693). For relations with Cypriot and Pamphylian see Brugmann, *Griech. Gram.*¹ p. 18, and *ibid.*³ p. 37. Cf. G. Meyer, *Griech. Gram.*³ p. 220, and Rogers’ note, *l. c.* p. 171. It is perhaps worth while to notice that, while in Cypriot in every case between i + vowel (and u + vowel) a corresponding semivowel -i- (or -u-) is developed (cf. Hoffmann, *Griech. Dialekte*, I. pp. 37 ff.), in Pamphylian this semivowel is written at least, chiefly in the

older inscriptions (Sillyon and coins of Aspendos and Perge). As to the character of the sound there appears to be substantial agreement between Pamphylia and Argos, for there exist in both probable cases of an inherited χ affix, e. g. $\tau\alpha\mu\acute{\iota}\chi\alpha\varsigma$, $\epsilon\pi\iota\tau\eta\delta\acute{\iota}\omega\varsigma$ (Pamph.), $\acute{\alpha}\lambda\iota\omega\varsigma$ (Argive), along with cases like $\pi\acute{o}\lambda\iota\chi\epsilon$ (Pamph.) and Καρνεύας (Argive), where primary inheritance is less certain, and again instances where a secondary χ appears in the place formerly occupied by an entirely different consonant, e. g. Pamphylian $\iota\acute{\alpha}\rho\alpha\acute{o}\iota\varsigma$ (-s-, cf. Sansk. -s-), φέτεα (-s-), Argive $\delta\alpha\mu\iota\omega[\rho]\gamma\acute{o}\iota$ (-f-). Pamphylian and Argive also approach each other and differ from Cypriot in allowing the χ to be developed after other sonants than simple ι , e. g. φέτεα , Καρνεύας . In this inscription, however, Ἀργείας is written without χ . — The next word is uncertain owing to the difficulty of deciding between *san* and μ at the end of the line. From the description previously given (*s. n.*) there seems to be a slight preference in favor of *san*. We may therefore, with due allowance, read $\omicron\iota\varsigma$. Rogers suggests $\text{ho}\acute{\iota}\varsigma$ (viz. $\text{τρόποις οἷς [ho νόμος κελεύει φοι and οἱ μ]έγιστα τέλεα ἐ[χοντι]$). That here and in the following lines there are, as Rogers has observed (*l. c.* p. 171), provisions for the carrying out of the confiscation of the property of the exile, and for the punishment of the magistrates who fail of their duty in the matter, seems probable, but there are not sufficient data for any probable completion of the lines. For a variety of ingenious attempts, see Rogers' article.

Line 8. $\tau\acute{\alpha}\varsigma$ may be supplied at the beginning. Fränkel remarks that the absence of punctuation (cf. ll. 3 and 10) points to the article. $\gamma\acute{\alpha}\varsigma$ may have preceded. Banishment of the $\delta\alpha\mu\iota\omega\rho\acute{o}\varsigma$, or of the officials upon whom the duty would next devolve, is probably indicated. In the former case $\kappa\alpha\iota\ \omicron\iota\ \text{φοι}$, with which Rogers reads $\epsilon\acute{\iota}\gamma\gamma\acute{\iota}\tau\alpha\tau\alpha\ \epsilon\acute{\iota}\nu$, would be appropriate, in the latter $\omicron\iota\text{φοι}$ (as in Cypriot for epic $\omicron\iota\alpha$, also suggested by Rogers), with which we might perhaps supply $\epsilon\acute{\iota}\nu\ \tau\acute{\alpha}\iota\ \acute{\alpha}\rho\alpha\iota\ \acute{\epsilon}\nu\acute{\epsilon}\chi\omicron\upsilon\iota\tau\omicron$ (cf. *I. G. A.* 110).

Line 9. The first letter might be the end of an optative, e. g. $\beta\acute{o}\lambda\omicron\upsilon\iota\tau\omicron$, as Rogers conjectures, or possibly of a pronoun, e. g. $\tau\acute{o}\upsilon\tau\omicron$, $\alpha\upsilon\tau\acute{o}$. Under certain circumstances, specified in the preceding lines, the tribe of the Hylleis (cf. *A. J. A.* XI. p. 43, No. xii. l. 5, and Richardson's note, pp. 45 f.) are to sell the property ($\acute{\alpha}\pi\omicron\delta\acute{o}\mu[\epsilon\upsilon\omicron\iota]$, probably, as Rogers suggests, for the benefit of the sacred treasury. The edge at the end of the line is beveled, indicating \vdots .

Line 10. $\gamma\alpha$ for $\gamma\epsilon$; so Rogers and Fränkel. The territory of Argos is contrasted with some other district or place specified in the inscription, or with extra-Argive territory in general. — At the end of the line the left bevel of the left hasta of an α is preserved for nearly its entire length. Rogers, who supplies $\kappa\alpha\tau\alpha\kappa[\alpha\lambda\acute{\epsilon}\omicron\iota]$, is probably right in assuming that

the sentence refers to the recall of the banished person. It is also conceivable that in this and the following line approval in the sight of Hera is invoked for any one who shall slay a fugitive (original offender or derelict official) from Argive territory at least, in which case $\kappa\alpha\tau\alpha\kappa[\acute{\alpha}\nu\omicron\iota]$ could be read.

Line 11. The γ at the beginning is certain. According to the view which may be taken of the intent of the preceding line, the word may be completed as $\acute{\alpha}\nu\alpha[\gamma\upsilon\upsilon\omicron\upsilon]$ or $\sigma\tau\upsilon[\gamma\upsilon\omicron\upsilon]$ (both suggested by Rogers), or, if $\kappa\alpha\tau\alpha\kappa[\acute{\alpha}\nu\omicron\iota]$ (or something of similar meaning) be read, as χαγνόν . — $\pi\acute{o}\iota$ for $\pi\rho\acute{o}\varsigma$ (cf. Prellwitz, *Etym. Woerterb. s. v. ποτί*, Searles, *Lexicog. Study, s. v.*, G. Meyer, *Griech. Gram.*³ p. 389, n. 1). — $\text{H}[\acute{\epsilon}\rho\alpha\varsigma]$: the right bevel of the upright of the ϵ is preserved.

1827. PLATES CVI., CVII. (photograph and copy). Height, 0.0085 m. and 0.0035 m.

το

It is possible but not probable that part of an α remains on the right.

1877. PLATE CX. (photograph and copy). The letters faint but certain. Height, 0.007 m.

$\Theta\alpha\mu\phi\iota\lambda\omicron\varsigma\ \mu\epsilon\ \alpha\upsilon\theta\acute{\epsilon}\kappa\epsilon\ \tau\alpha\iota\ \text{H}\acute{\epsilon}\rho\alpha\iota\colon\ \tau\alpha\varsigma\ \text{Καρνεύας}$

Translation: *Thamophilos dedicated me to Hera from (i. e. perhaps spoil from) the Karneia.*

$\Theta\alpha\mu\phi\iota\lambda\omicron\varsigma$: second, third, and fourth letters very faint. The name does not seem to occur. Analogous are $\Theta\alpha\mu\kappa\lambda\acute{\eta}\varsigma$, *C. I. G.* 1840 (Coreyra), $\Theta\epsilon\mu\iota\acute{\nu}\omicron\sigma\tau\rho\alpha\tau\omicron\varsigma$, *B. M. I.* II. p. 83, No. 298, l. 26 (Calymna), and perhaps $\Theta\acute{\alpha}\mu\upsilon\pi\omicron\varsigma$, *C. I. A.* IV. Add. No. 23, l. 4. See Fick-Bechtel, *Griech. Eigennamen*, p. 139. — $\alpha\upsilon\theta\acute{\epsilon}\kappa\epsilon$: cross-bar of α uncertain, but lowest of the three possibilities indicated in copy is the most probable. — Καρνεύας : the dotted line in copy of K represents a false stroke in the original. Right side of ρ uncertain owing to oxidation. The lines indicated by dots in copy are fairly clear, but probably do not belong to the letter. Preller-Robert, *Griech. Mythologie*, I. p. 250, n. 3, assume a festival of Apollo Carneios at Argos on the basis of Schol. to Theocritus, V. 83, and Hesych. *s. v.* $\acute{\alpha}\gamma\eta\tau\acute{\eta}\varsigma$, according to whom Apollo Carneios was called Ἀγήτωρ at Argos, and was worshiped at the festival called $\acute{\alpha}\gamma\eta\tau\acute{o}\rho\iota\alpha$. The use of the singular is noticeable. Elsewhere $\tau\acute{\alpha}\ \text{Κάρνεα}$. Here it probably agrees with the genitive singular of $\acute{\epsilon}\omicron\rho\tau\acute{\eta}$, a word used by the Scholiast above cited in speaking of the Carneia, and by Herodotus, I. 31, in referring to the Heraea ($\acute{\epsilon}\omicron\upsilon\sigma\eta\varsigma\ \acute{\omicron}\rho\tau\acute{\eta}\varsigma\ \tau\acute{\eta}\ \text{Ἡρῇ τοῖσι Ἀργείοισι}$), or possibly with $\acute{\alpha}\mu\acute{\epsilon}\rho\alpha\varsigma$ (genitive singular), cf. Καρνεῖαι ἡμέραι (*J. H. S.* IX. p. 328, from Cos). The genitive is slightly freer than in $\tau\acute{\alpha}\rho\gamma\acute{\epsilon}\omicron\iota\ \alpha\upsilon\theta\acute{\epsilon}\nu\ \tau\acute{\omega}\ \Delta\iota\acute{\omega}\iota\ \tau\acute{\omega}\nu\ \text{Κορινθίων}$ (*I. G. A.* 32), but resembles that in $\acute{\epsilon}\pi\iota\ \text{Ἰ Παχσιάδαι Πιοβίων με [κατεθηκεν - -] Λανπείδων Σθενίδα$ on a bronze fragment from the Acropolis. Bather, *J. H. S.* XIII. p. 129. For $\alpha\epsilon$, see on No. **1826**, l. 7.

1878. PLATE CX. (photograph and copy). Letters faint and in part illegible owing to oxidation. Height, 0.0045 m.

Ν[ε]κασίας με ανεθέκεται Ἡῆραι.

Translation: *Nikasias dedicated me to Hera.*

Νικασίας: right bar of N and following letter hidden by oxidation. Instead of -σι-, -νι- may be read, as the upper right hasta of the *san* is faint and not quite certain. It does not seem to have been joined at the top to the remainder of the letter. For Νικανίας, which does not seem to occur, cf. *Λυσ-ανίας*, *Πανσ-ανίας*. For -νι- see on No. **1826**, l. 7; Νικασίας, for Νικησίος, is found *C. I. G.* 1513, l. 18 (Tegea). — Ἡῆραι: middle bar of ε uncertain. Cross-bar of α given by upper stroke. Nevertheless, the dotted line probably represents a real stroke.

1882. PLATE CXI. (photograph and drawing). Both show concave side of dots. Inscription retrograde. Broken at both ends, and abraded at bottom. Preserved height, 0.028 m.

α]κυ

Perhaps a proper name beginning with Λυκα-. On the same side, a number of circles (see drawing), perhaps decorative, and in any case independent of the inscription.

1883. PLATE CXI. (photograph and drawing, both showing concave side of dots). Fragments *a*, *b*, and *c*, of which *b* is in uninscribed part. Uncertain whether *c* joined *b*. Defective at both ends and in interior. Height of best preserved letter, 0.024 m. On the same side with the inscription and intermingled with it are many circles faintly struck, which do not, however, seem to form part of a system.

Fragment a. The only certain letter is Y. At the left along and near broken edge, lightly struck dots and circles, which may form part of an H. At the right near edge, complex of dots in which it is difficult to recognize any letter except possibly an un-Argive Λ, or a P reversed (Ϻ), or an A. It is profitless to speculate as to what name beginning 'Υλ- or 'Υρ- or 'Υα- may have stood here.

Fragment c. In central part, ΑΙ in heavy dots. At left edge, three similar dots which may have formed part of a T. At right edge, Ε, also in heavy dots. The inscription may be read ΤΑΙΕ, i. e. τ]αι Ἡ[ραι. With the rounded Θ cf. the rounded Ε in No. **1886**, and the Θ (if for Θ) on coins of Argos, *B. M. C. Peloponnesus*, p. lv. For Α, cf. *I. G. A.* 351 f. (Aegina), and alphabet tables in Larfeld (Iw. Müller, II. p. 532), and Roberts, *Greek Epig.* The inscription is archaic.

At the right of Α, a sort of T of faint circles, fol-

lowed by a straight line and an s-shaped line of the same. Probably not intended for letters.

1885. PLATE CXI. See *s. n.*

1886. PLATE CXII. Shows concave side of dots. Defective at both ends. Height of letters, 0.025 m.—0.032 m.

ΕΡΙΑ -ερια-

With Ε cf. II in No. **1883**. Beneath loop of ρ, three or four dots, faintly struck, perhaps for tail.

1887. PLATE CXI. Shows concave side of dots. A single letter, one side of which is gone. Height, 0.02 m.

Probably an Θ. The middle bar is entire. Above end at edge of break, beginning of dot.

1888. PLATE CXI. See *s. n.*

1889. PLATE CXII. (photograph and drawing, both showing concave side of dots). Fragments *a* and *b*. They probably do not adjoin. Letters, none of which is complete, in heavy dots. Independent of them, numerous circles without systematic arrangement.

Fragment a. Parts of two letters, perhaps Γ and Ρ (the latter reversed).

Fragment b. Perhaps Ι Α Τ, ι α[τ, i. e. τ]αι.

1985. PLATE CXV. (photograph). Copy below. Height, 0.014 m.



Initial letter of 'Hpas or 'Hpai. Cf. No. **1746**.

1994. PLATE CXVI. (photograph). Copy below. Letters poorly preserved. Height that of thickness of rim (0.004 m.—0.005 m.). Tops toward outside.

ΕΡΤΑΙΗΕΡΑΙΟΑΜΟΕΝΑΙ



.. ἐρ ται Ἡῆραι δαμο<ν> ἐναι .. Σ

Translation uncertain. Perhaps a record of deposit with Hera for the benefit of the people.

The first letter looks like half of an ο, but may be only an accident of incrustation. On the latter supposition possibly to be supplied . . πατήρ or μήτηρ preceded by a personal name in gen. Cf. *I. G. A.* 495 (Erythrae) τότε σ[η]μα μήτηρ ἐπέθηκε θανόντι Φανο[κ]ρίτη παιδὶ χαριζομένη, though not a close par-

allel either in construction or sense. — δάμο<ι> : probably -ov (rather than ω), as was usage after the introduction of the Ionic alphabet. Absence of article could be taken to indicate the presence of a proper name, i. e. Damos. — εἶναι = ἦναι or perhaps better εἶναι, to be consistent with δάμου. The form seems here to be Arcadian. — In the third space after εἶναι there seems to be a Σ. It may have been preceded by ἐς (= ἐκ). Otherwise possibly similar to *J. H. S.* XIII. p. 128, No. 53, Ἀθηναίης M, where Bather suggests Μηδων. Cf., however, Rouse, *Greek Votive Offerings*, p. 105, n. 1. — For use of shrines on Acropolis at Athens as places of deposit, see Bather, *ibid.* p. 129.

2239. PLATE CXXV. (photograph and copy). Length, 0.052 m. Letters much damaged by corrosion. Height, 0.0044 m.–0.013 m.

τας Ηῆρας

τᾶς: upper cross-bar slightly heavier and probably to be preferred. — Ἡρας: tail of ρ certain. In case of last letter the fourth stroke seems to have been at the lower edge of the upper excoriation, but the corrosion renders the intention of the engraver somewhat doubtful.

For interpretation, cf. *ἱερὸν τῆς Ἀθηναίης*, *J. H. S.* XIII. p. 126, No. 10, and Ἀθηναίς, *ibid.* p. 128, No. 52. On an axe from Calabria, τᾶς Ἡρας ἱαρός εἰμι, *I. G. A.* 543. Cf. also the inscriptions from the Cabirion near Thebes, Szanto, *Athen. Mitth.* XV. pp. 388 ff.

2252. PLATE CXXVI. (photograph). Copy below. Length, 0.115 m. Letters not engraved, but struck with chisels. Height, 0.005 m.–0.007 m.

ΕΥΔΑΜΑΣ ΜΕ ΑΝΕΘΕΚΕ ΕΚ ΣΙΚΕΛΙΑΣ

Ευδάμας : με ανεθεκε : εκ Σικελίας

Translation: *Eudamas of Sicily dedicated me.*

Εὐδάμας: the penultimate letter is badly made, but probably was intended for an α. The name occurs also in *C. I. G.* II. 2266. *I. G. A.* Add. 43 a, said to be from Argos, has ΕΥΔ . . . Σ. — ἐ Σικελίας: ἐ<ς> for ἐκ. Cf. ἐ Ναυπάκτῳ (*I. G. A.* 321), ἐ τᾶς Χαλκίδος, ἐ τᾶς Οἰανθίδος (*ibid.* 322), and especially ἐς πόλιος, *C. I. P. I.* 492, l. 2. For the single writing, cf. τὸν συναρτύνοντας in the Tyskiewicz inscription, l. 2 (*Mon. Ant. Linc.*, I. p. 594). The formula is similar to Νάξιοι ἐξ (Σ)ικελίας in an inscription of the ἱεροποιοί at Delos (*B. C. H.* VI. p. 34, ll. 51 f.). On the other hand, Ταυρομενίται οἱ ἀπὸ Σικελίας in an inventory from the same place (*B. C. H.* X. p. 465, l. 115). The former is of about 180 B. C., the latter of 364 B. C. The island is probably meant. Another Sicily in the Peloponnese is mentioned by

¹ Published with the Bronzes because of the inscription. Impressions and photographs thereof, together with

Stephanus, s. v. and Eupolis, *Fragm.* 280 (Kock, cited by P.-B.). For the -α- see on No. 1826, l. 7. — With the punctuation contrast : μ' α : ῥέθεκε : in the Euthykartidas inscription (*B. C. H.* X. p. 464).

2827. PLATE CXXXV. (photograph and copy). Incomplete at both ends. Height of letters, 0.01 m.–0.016 m.

ανεθεκεται Ηῆρας

SILVER RING¹ FROM THE HERAEUM.

PLATE CXXXVII. Photograph of ring (actual size) and of impression of seal (enlarged). Copy of inscription. Condition fairly good except at end of inscription where there is a break of 0.0055 m.–0.0065 m. Uncertain how much of bar is missing, but there is space for only one or two letters. Diameter, 0.0185 m. × 0.0145 m. Height, 0.004–0.0043 m., increasing to 0.006 m. at seal. Thickness of bar, about 0.0065 m.

Bar ornamented with fine beading near each edge. On the seal, incised figure of uncertain character. On the original as well as on the photograph thereof, one seems to see a crouching figure resembling a monkey, which might perhaps be intended for Bes, a representation of whom in porcelain was found in the first year's campaign. However, the wax impression and its enlarged photograph show rather a winged figure with cylindrical body, around the bottom of which are two bands. The head seems to be detached and slightly removed from the axis of the body. There seem to be three slender legs, but only two feet; the third is perhaps behind the others. This figure would probably be that of some daemon, per-

haps a form of Ἐμ-
πουσα. For others,
not very similar, see
Furtwängler, *Die*

Antiken Gemmen, vol. I. pls. viii. 25 (cf. vol. I. p. 100), iv. 52, and xviii. 41. Between the head and the inscription, ornamental gold rivet. Cf. Furtwängler, *op. cit.* vol. III. p. 90.

Inscription. This occupies entire band, between beading, except seal. Scarcely legible toward end of preserved part. Height of letters, 0.002 m.–0.0024 m.

καλος : ἔμι : καλας : ιυς(?)

The first sigma has three strokes. Lowest stroke of the second sigma faint and doubtful. The last letter looks like a lunate sigma, but apart from the difficulty in the form of the letter, the reading ἰς or ἰνσ- is unintelligible. It is of course useless to think of ἰνσ, *C. I. A.* IV. b, 373, 100; I. 398, 4 (cf. Meis-
terhans, *Grammatik d. att. Inschriften*, p. 47, n. 413 a, b. G. Meyer, *Griech. Gram.* § 320). The letter could also be considered as part of a ρ, in which case, instead of reading : IVC after καλᾶς, an alternative

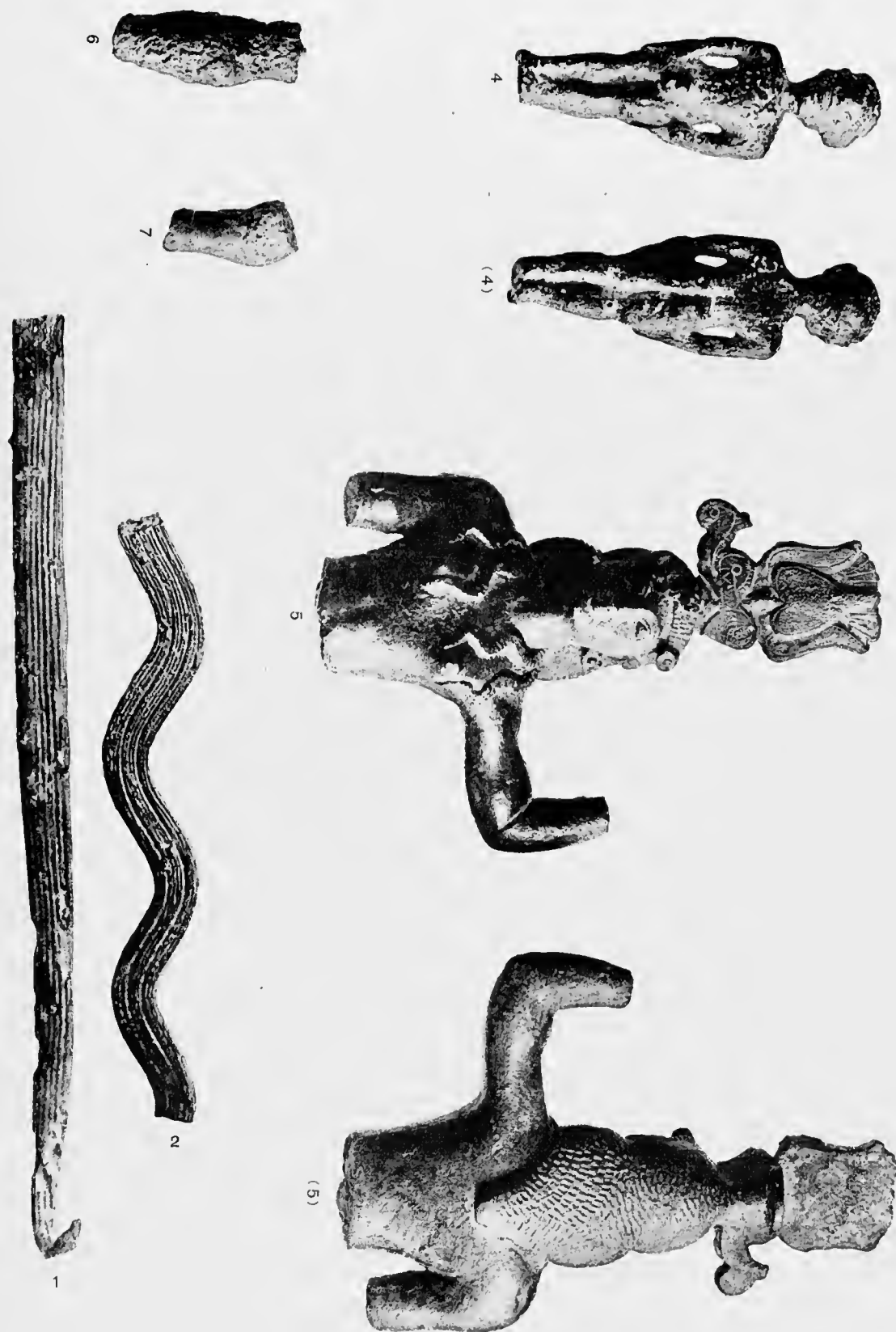
some notes, were kindly furnished by Professor R. B. Richardson.

reading could be adopted, viz., ΞIF^{L} i. e. $\text{H}\epsilon\rho[\alpha\varsigma]$. At certain times and in a certain light this seems almost plausible. In any case some word like $\delta\alpha\kappa\tau\upsilon\lambda\iota\omicron\varsigma$ is probably to be supplied with $\kappa\alpha\lambda\acute{o}\varsigma$, and the inscription will have nothing to do with the $\kappa\alpha\lambda\acute{o}\varsigma$ -inscriptions on vases.¹

SILVER PIN IN BRITISH MUSEUM, SAID TO BE FROM NEAR THE HERAEUM.

PLATE CXXXVII. For description, see after No. 490, p. 223, and for inscription, *Insc. Argol. (I. G. IV.)*, No. 508, and cf. No. 2239 above.

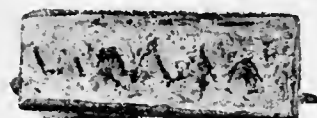
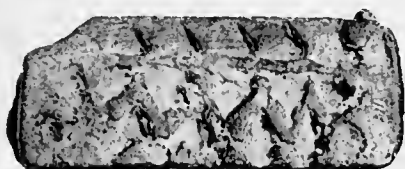
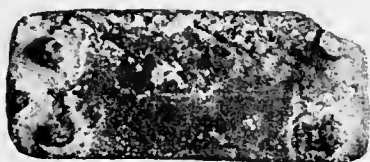
¹ Cf. Rolfe, 'An Inscribed Kotylos from Boeotia,' *Harvard Studies in Class. Philol.* II. pp. 89 ff.



BRONZES. —FRAGMENTS OF STATUES. STATUETTES.



BRONZES.—STATUETTE



8

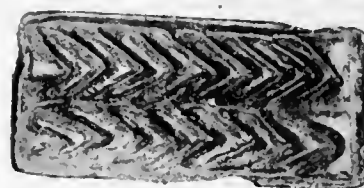
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11

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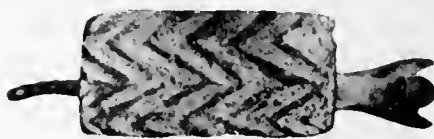
BRONZES.— ANIMAL FIGURINES



14



13



16



15



19



(19)



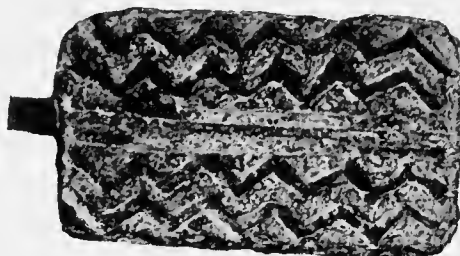
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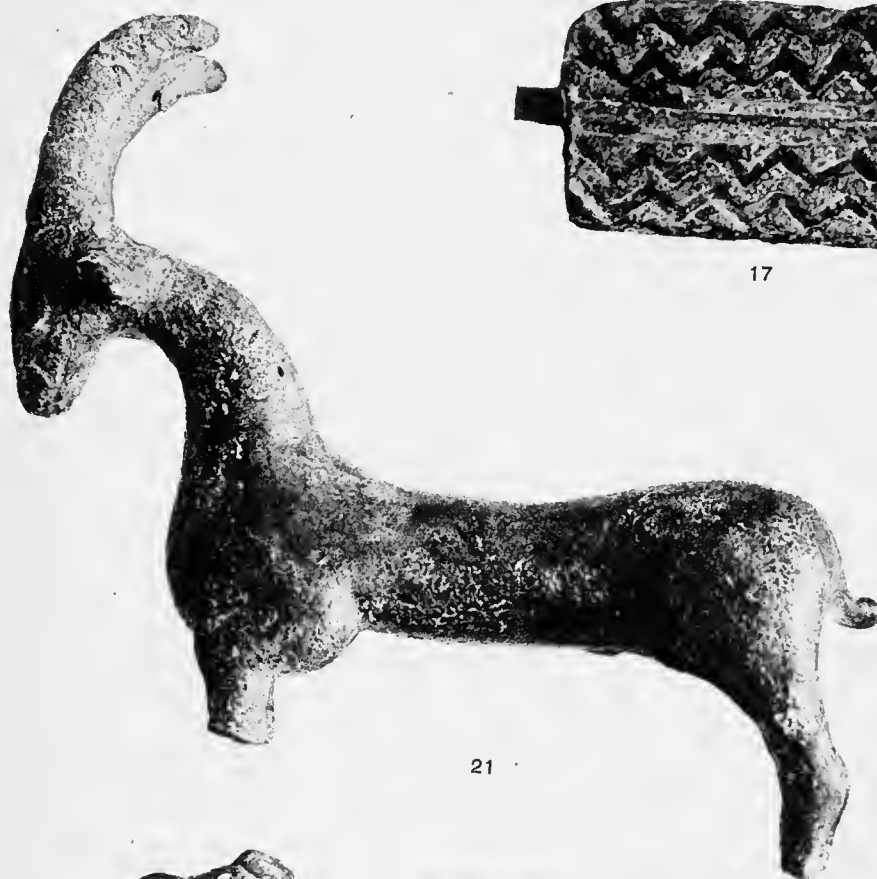
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18



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21



22

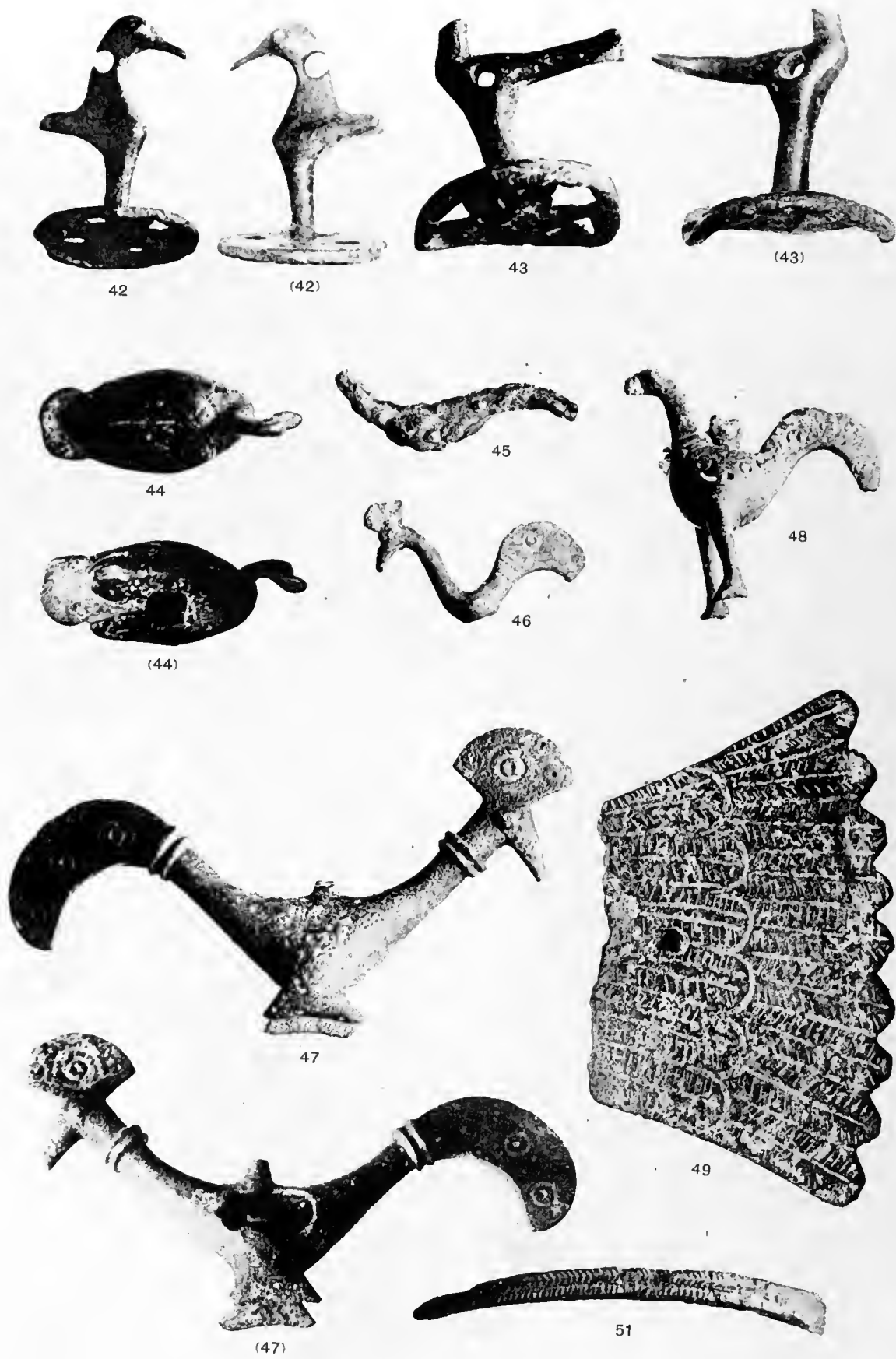


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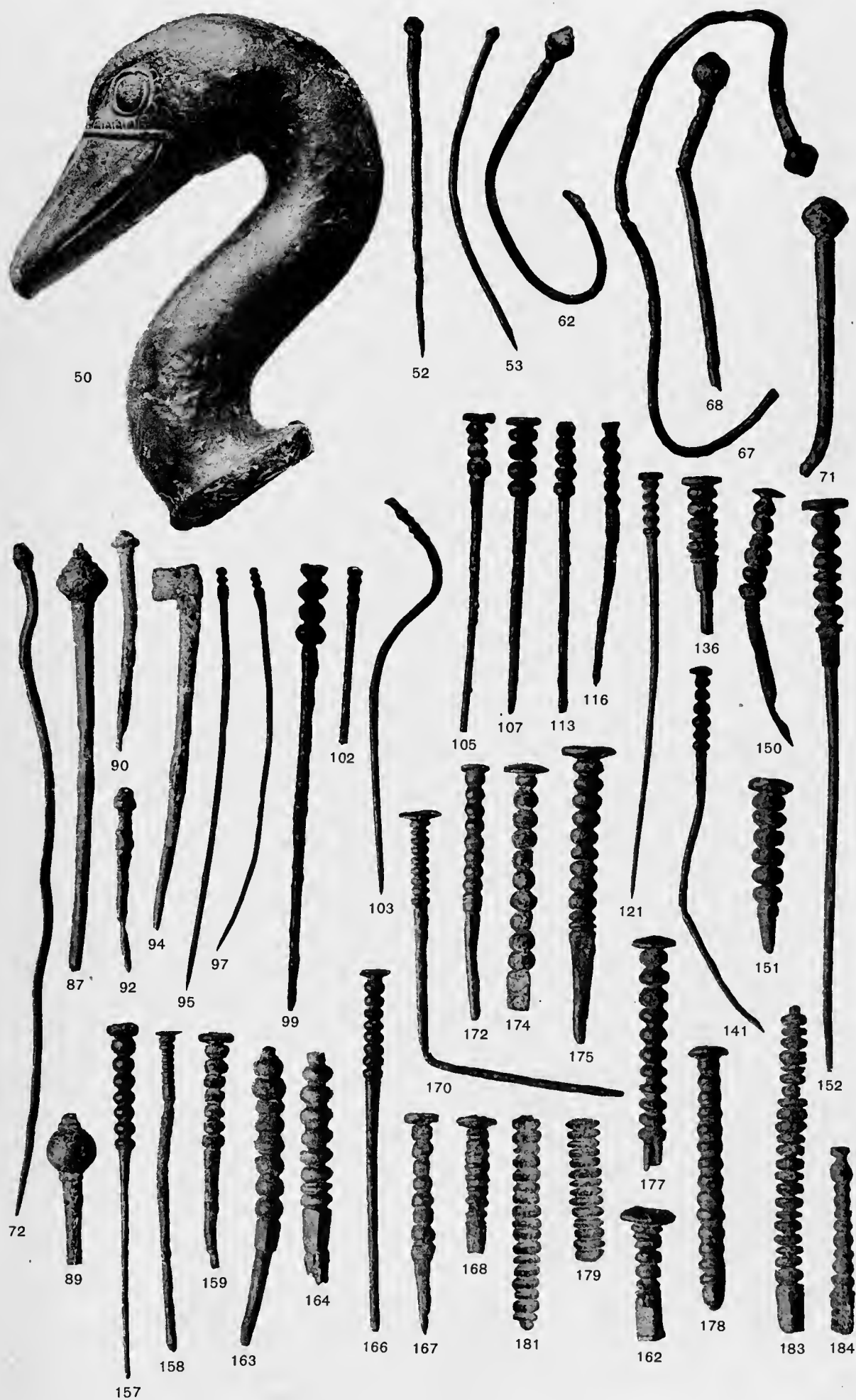


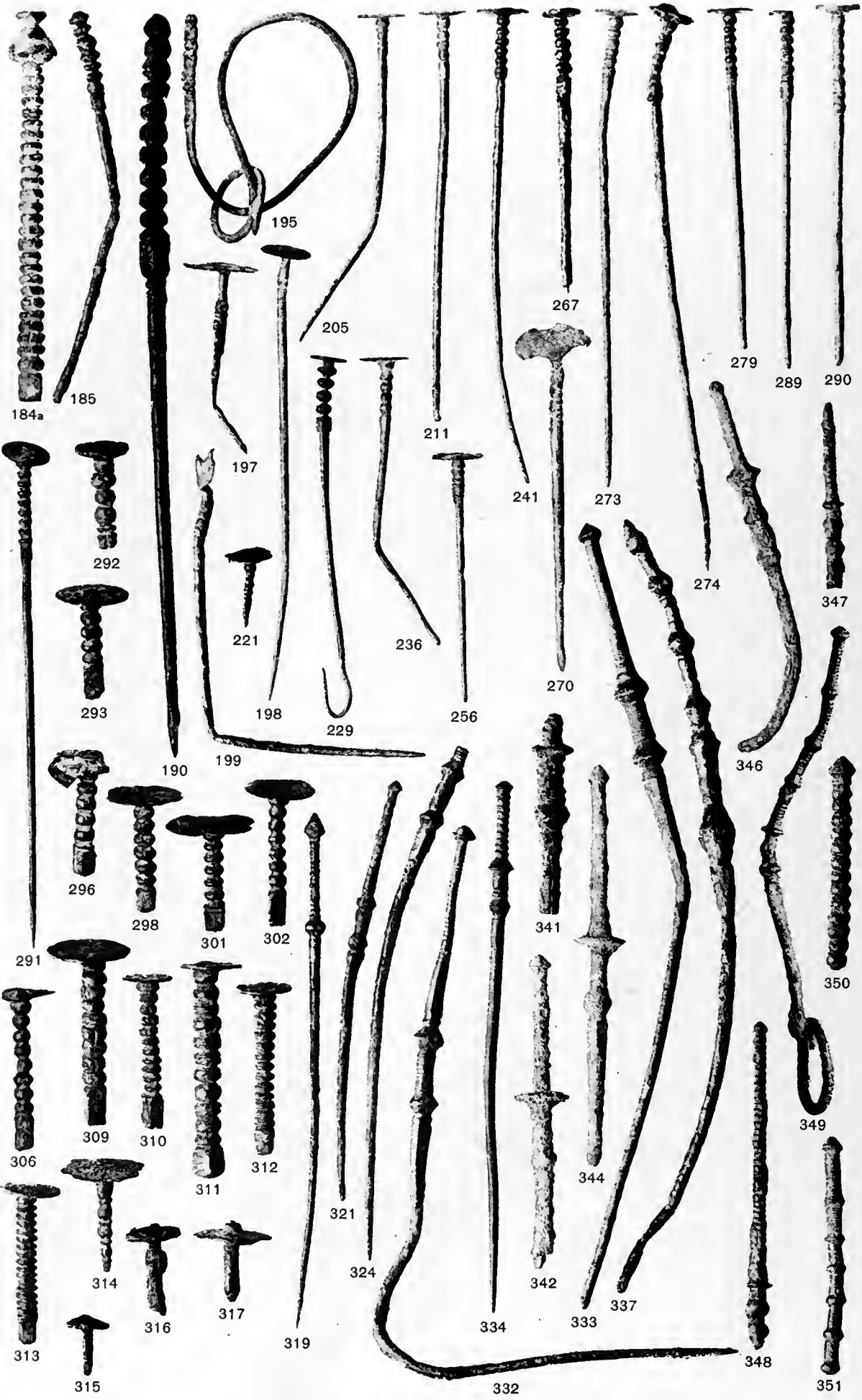


BRONZES.— ANIMAL FIGURINES

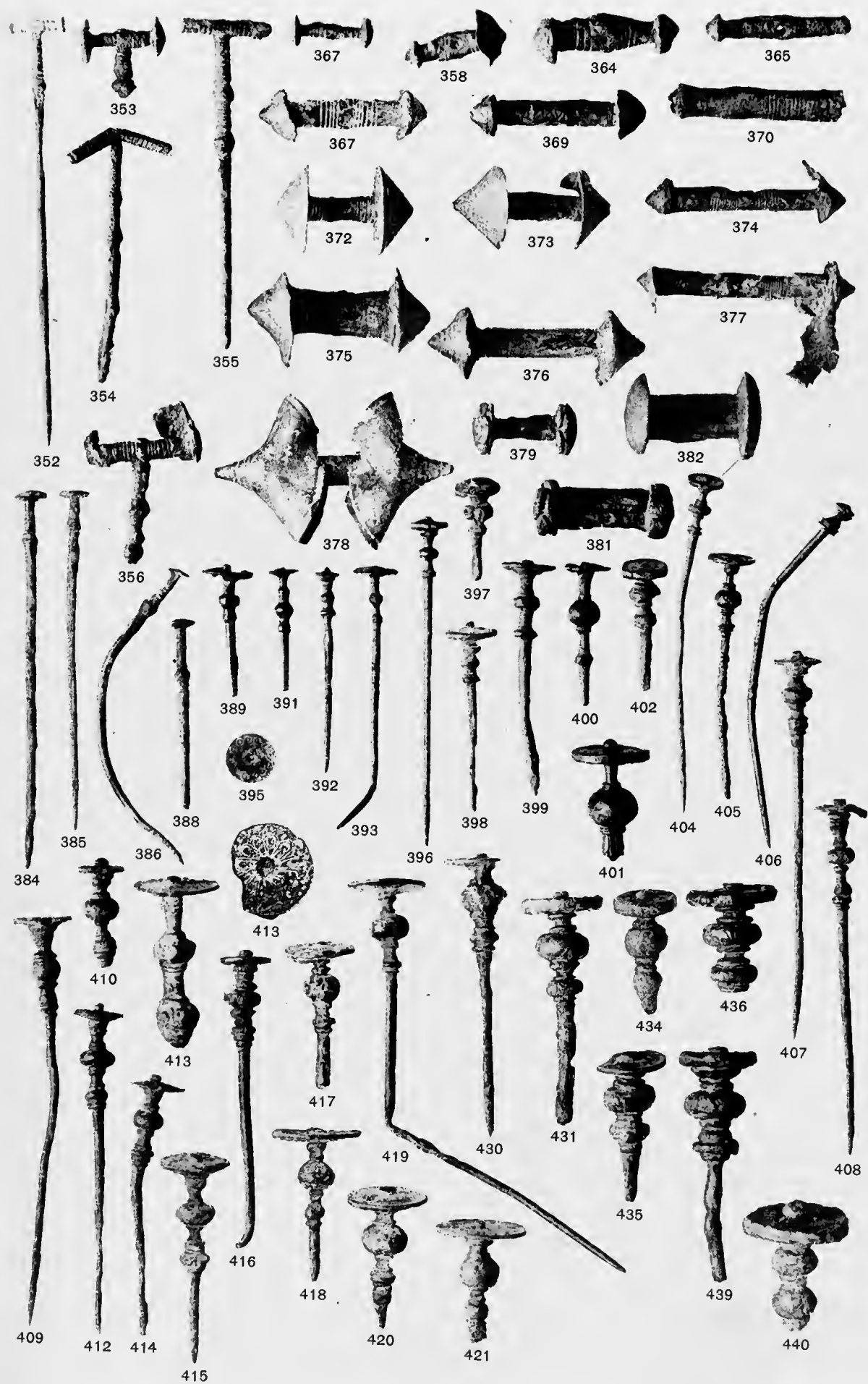


BRONZES.— ANIMAL FIGURINES.





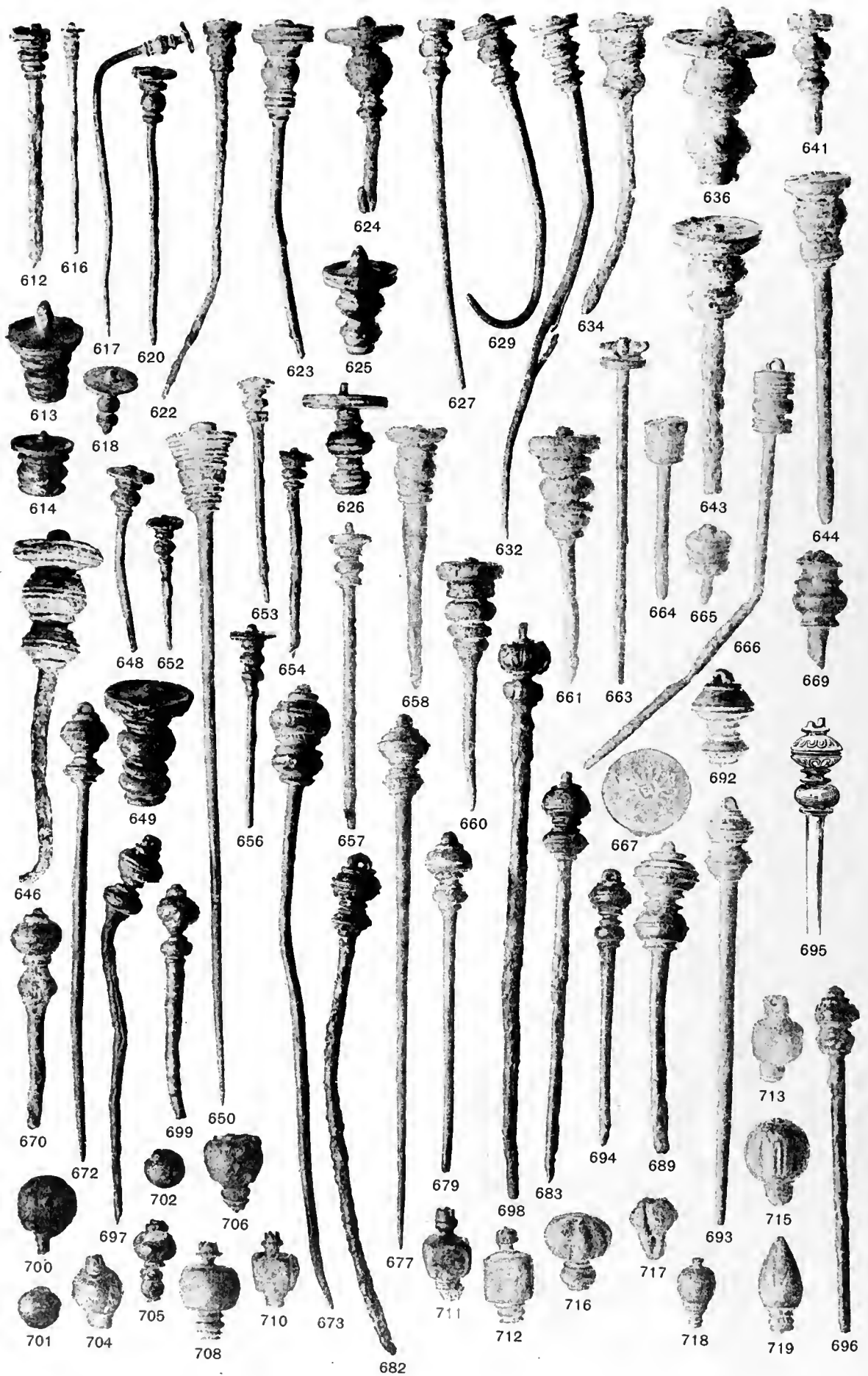
BRONZES.—STRAIGHT PINS

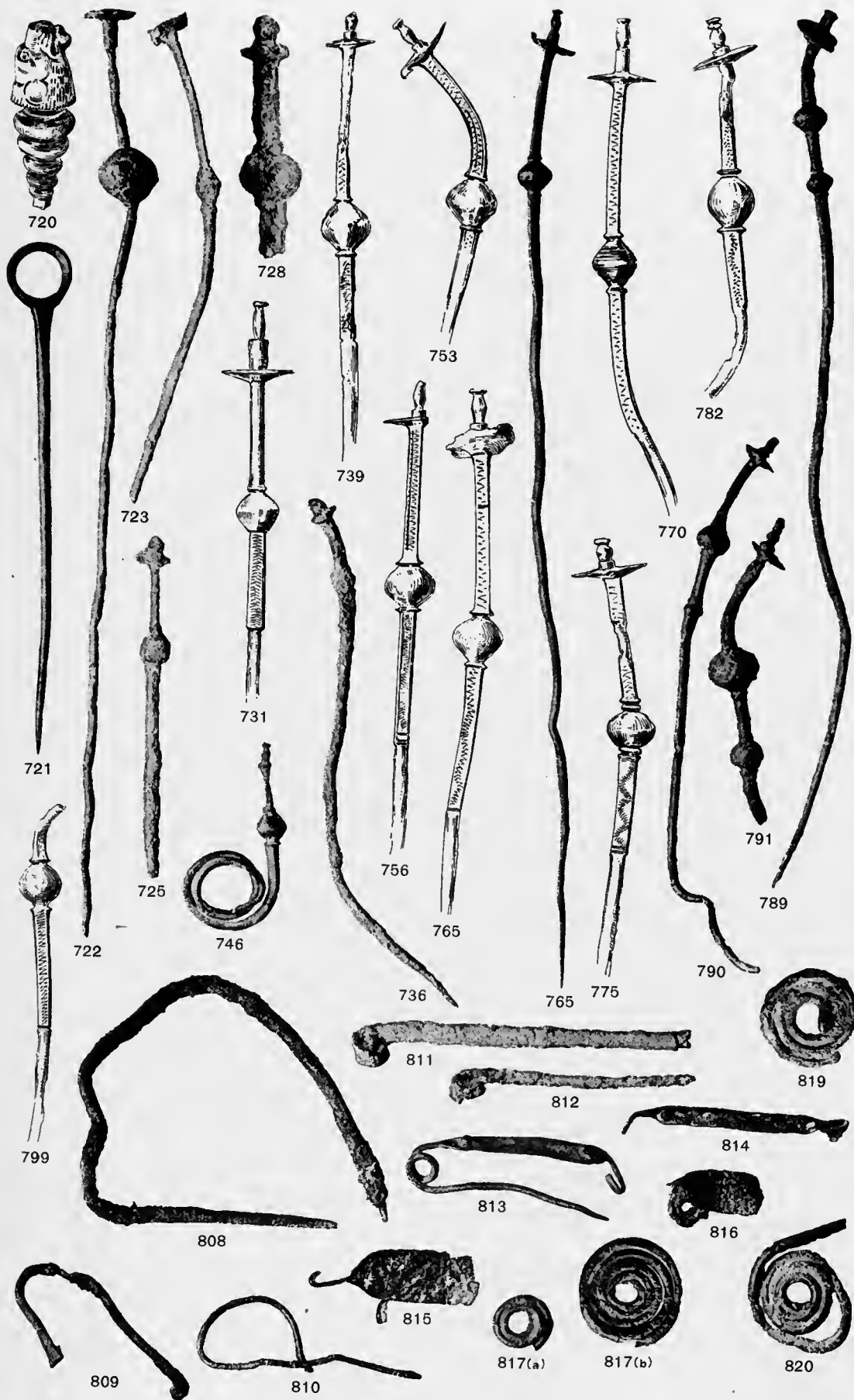




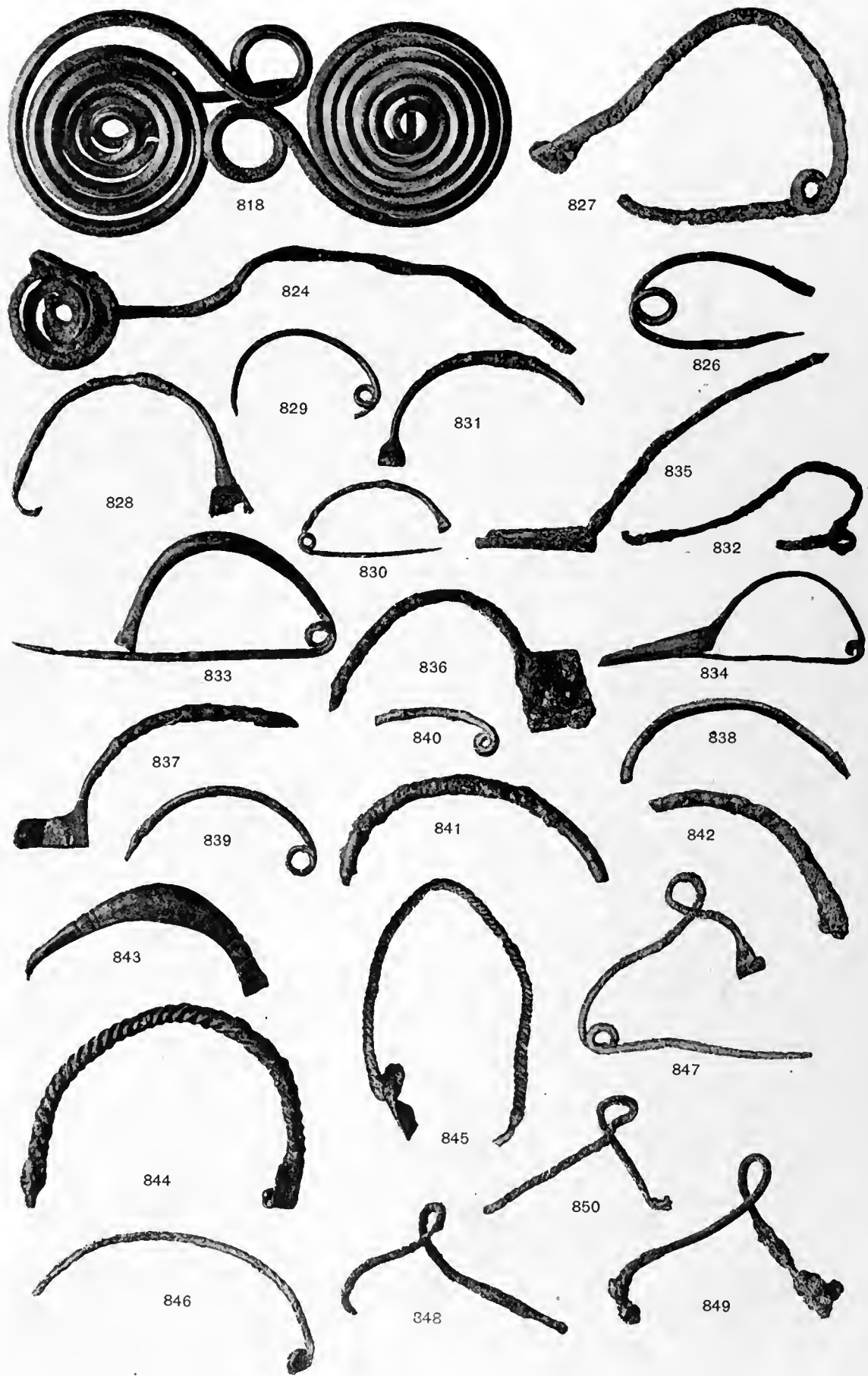


BRONZES.—STRAIGHT PINS.

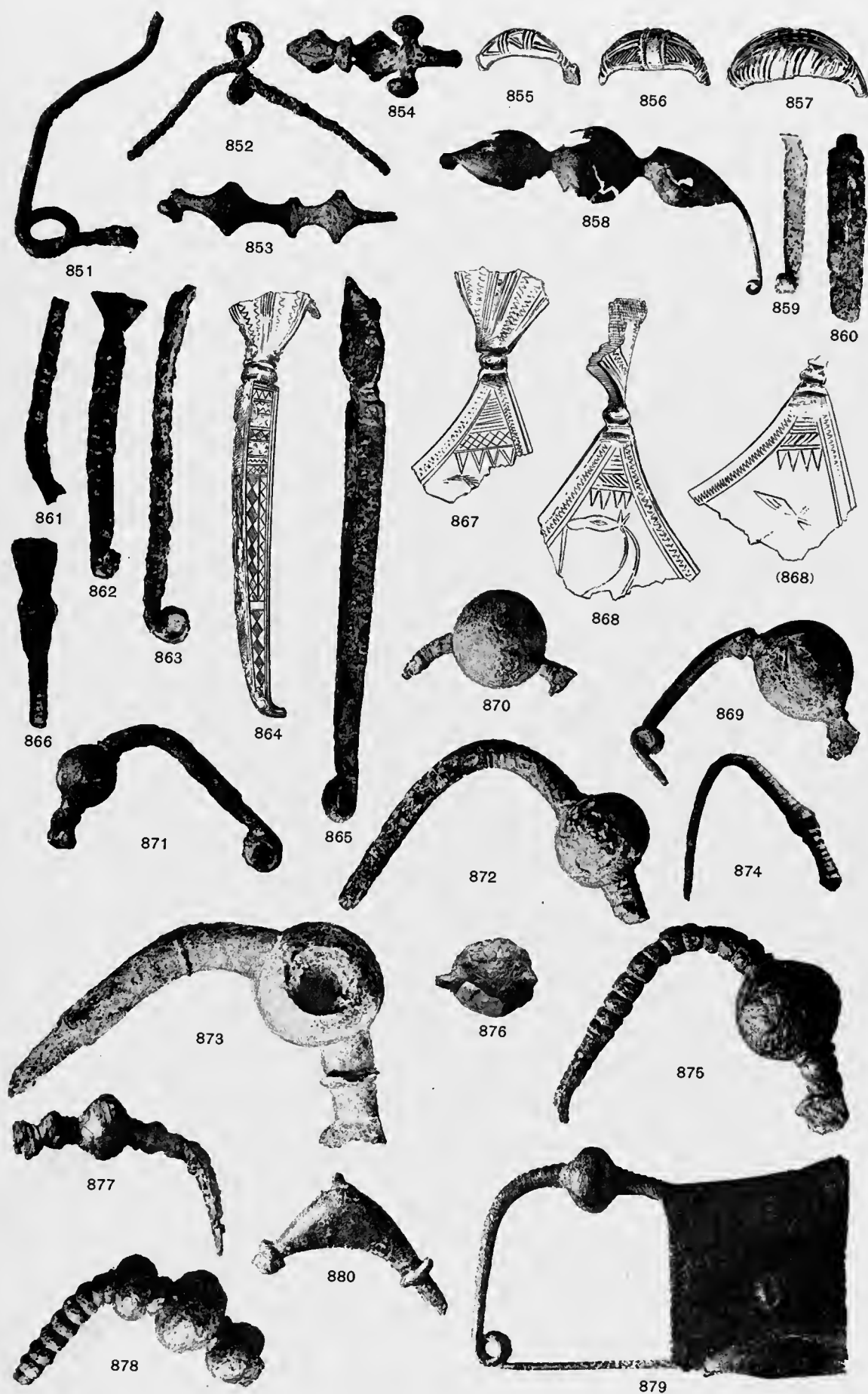




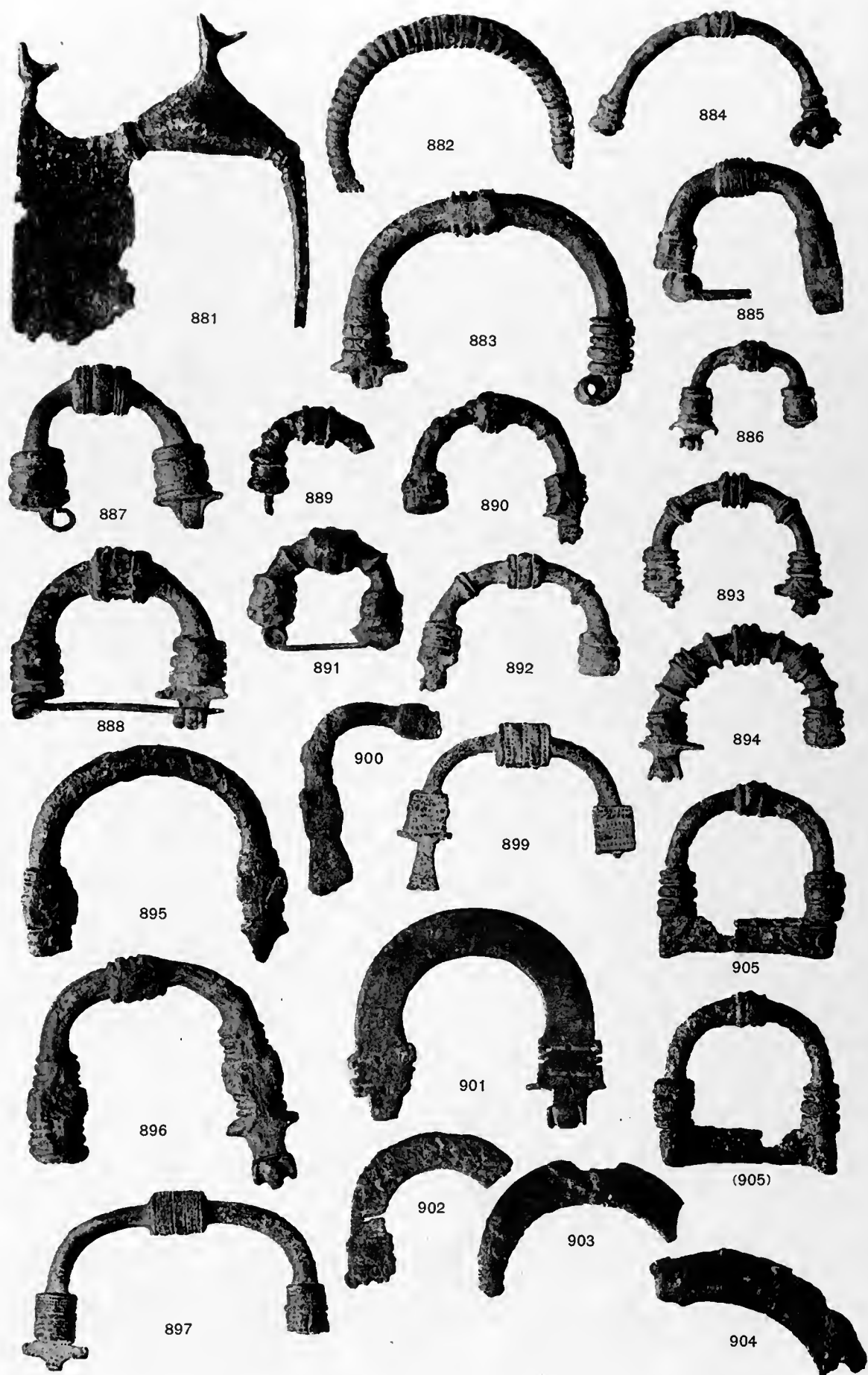
BRONZES.—STRAIGHT PINS. SAFETY PINS



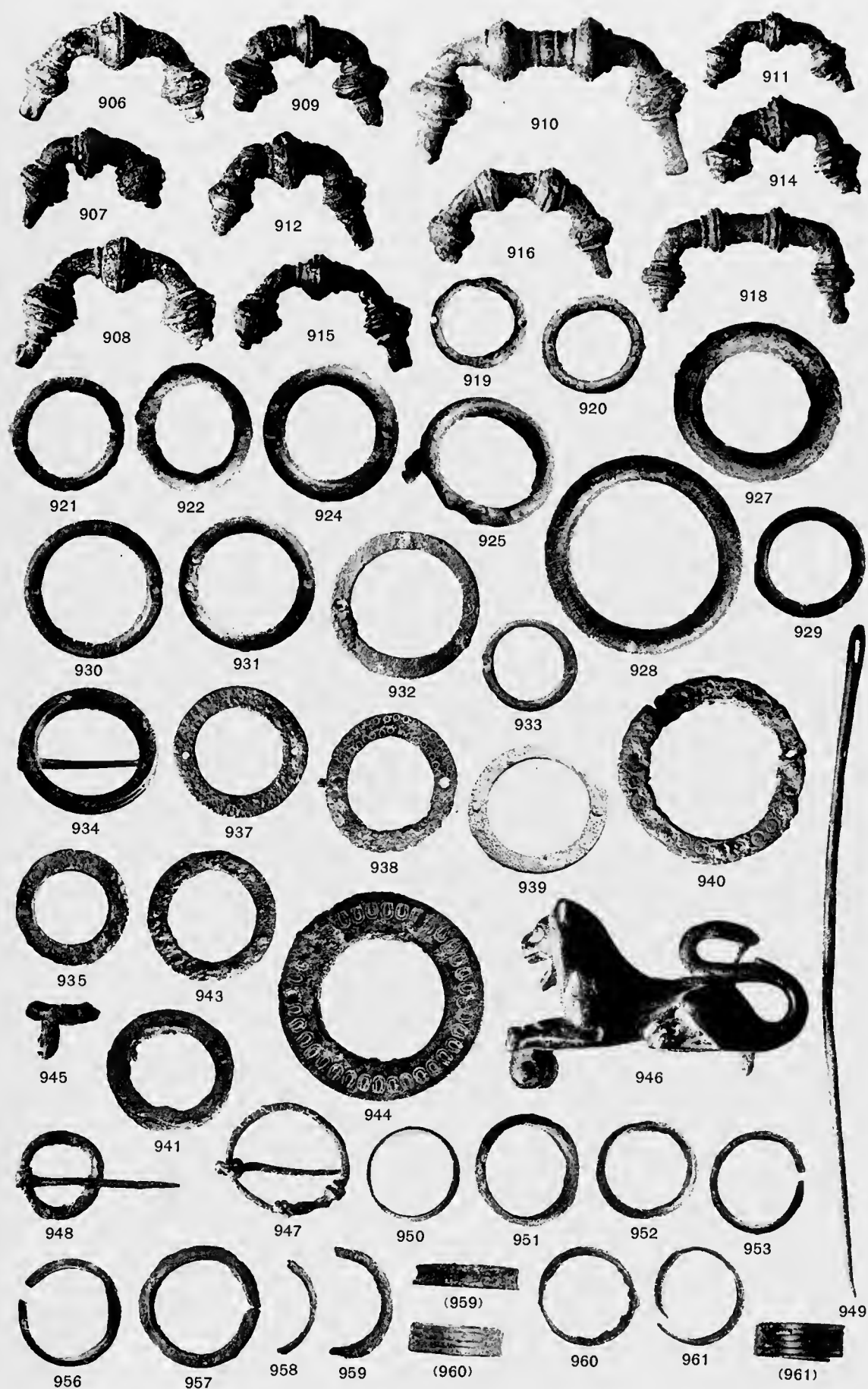
BRONZES.—SAFETY PINS



BRONZES.—SAFETY PINS



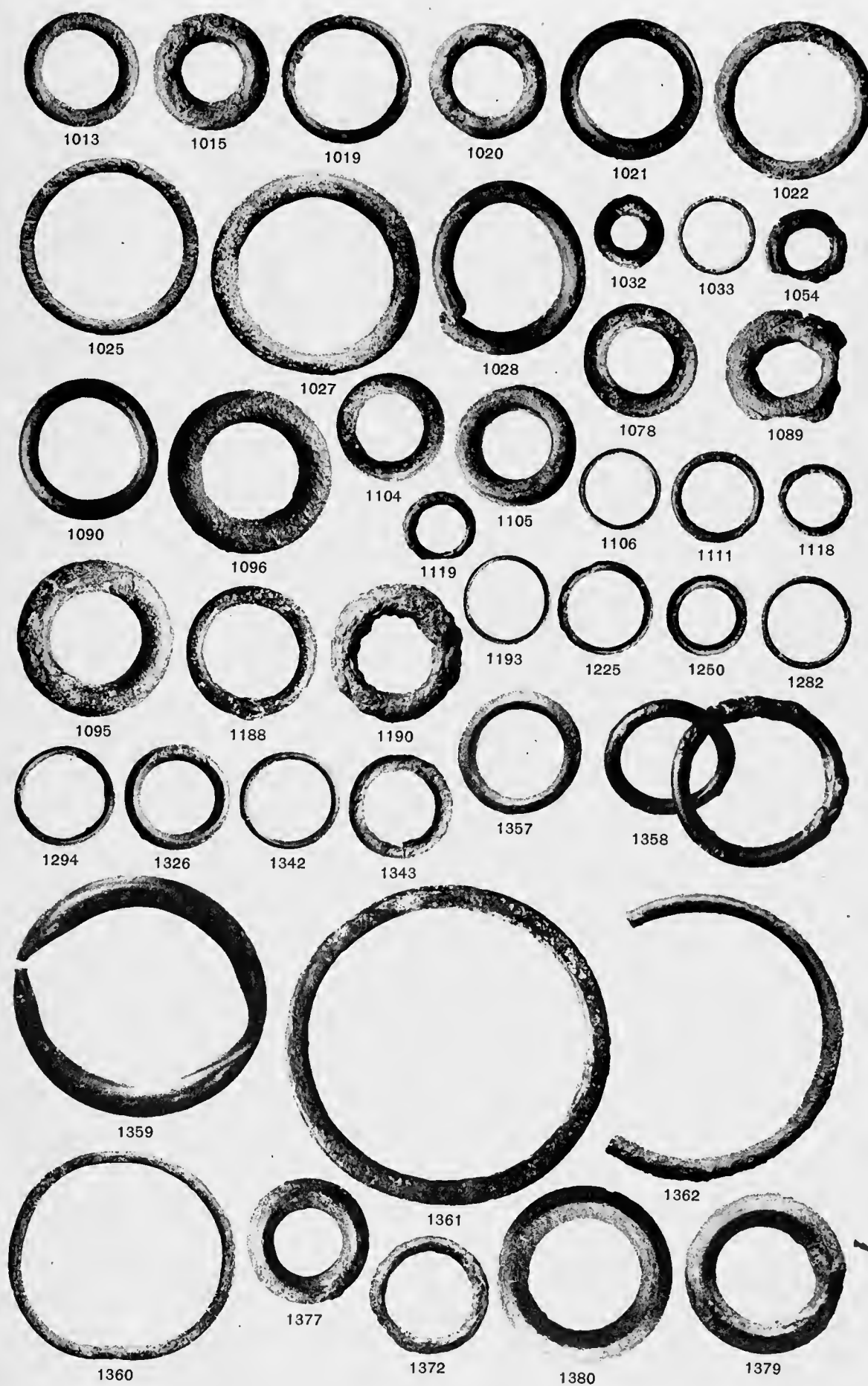
BRONZES.—SAFETY PINS

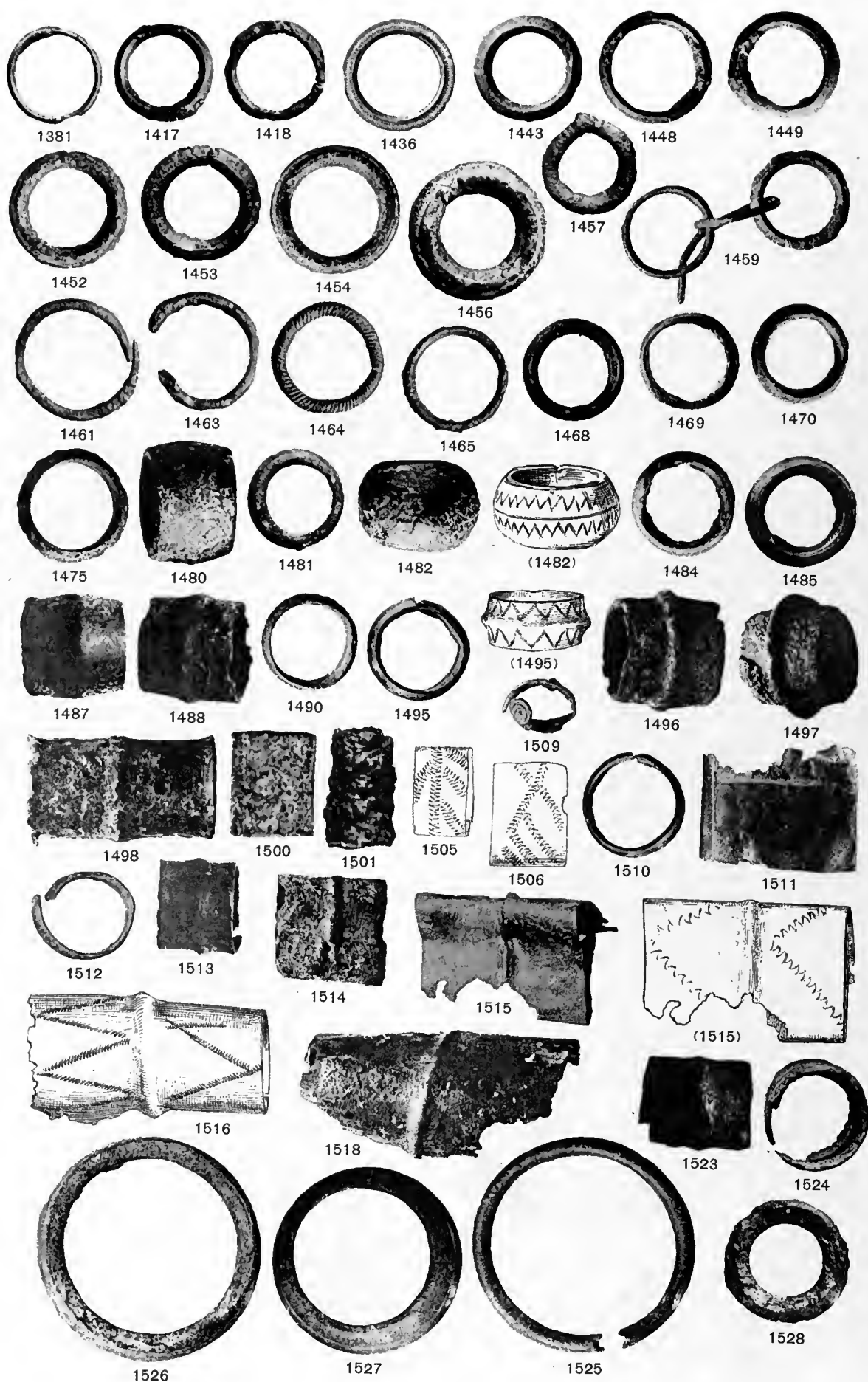


BRONZES.—SAFETY PINS ETC. NEEDLE, FINGER-RINGS



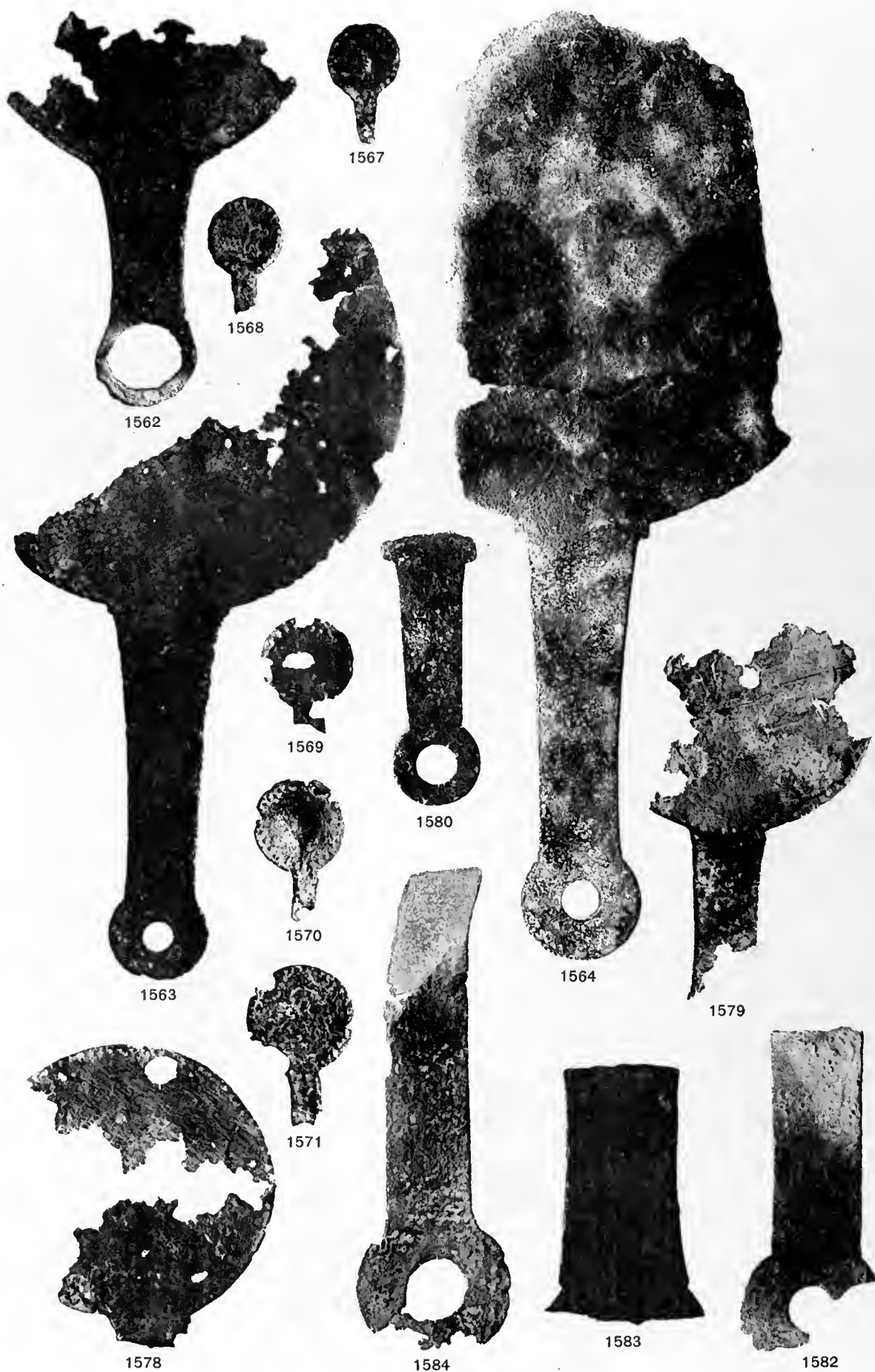
BRONZES.—FINGER-RINGS AND BRACELETS



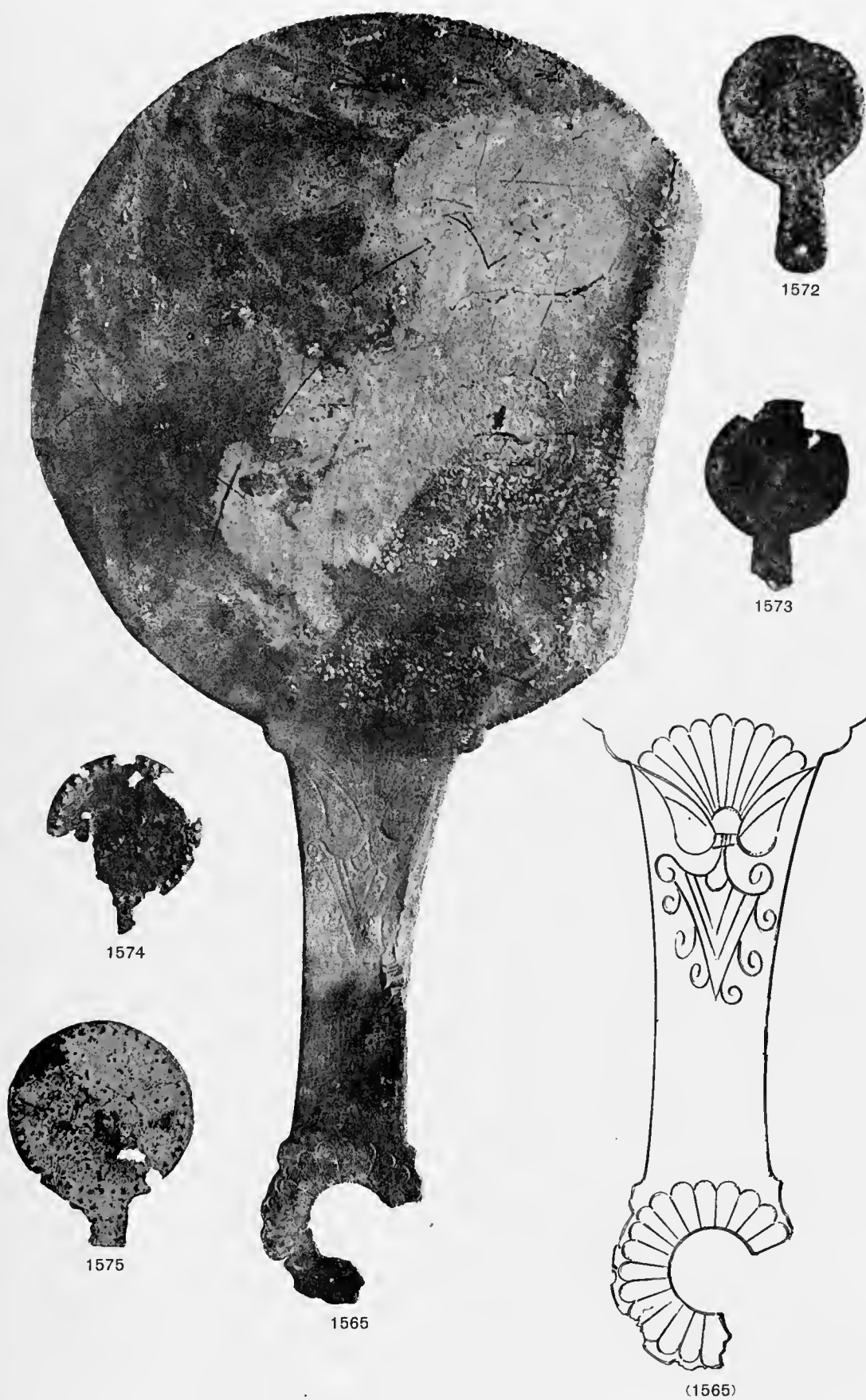




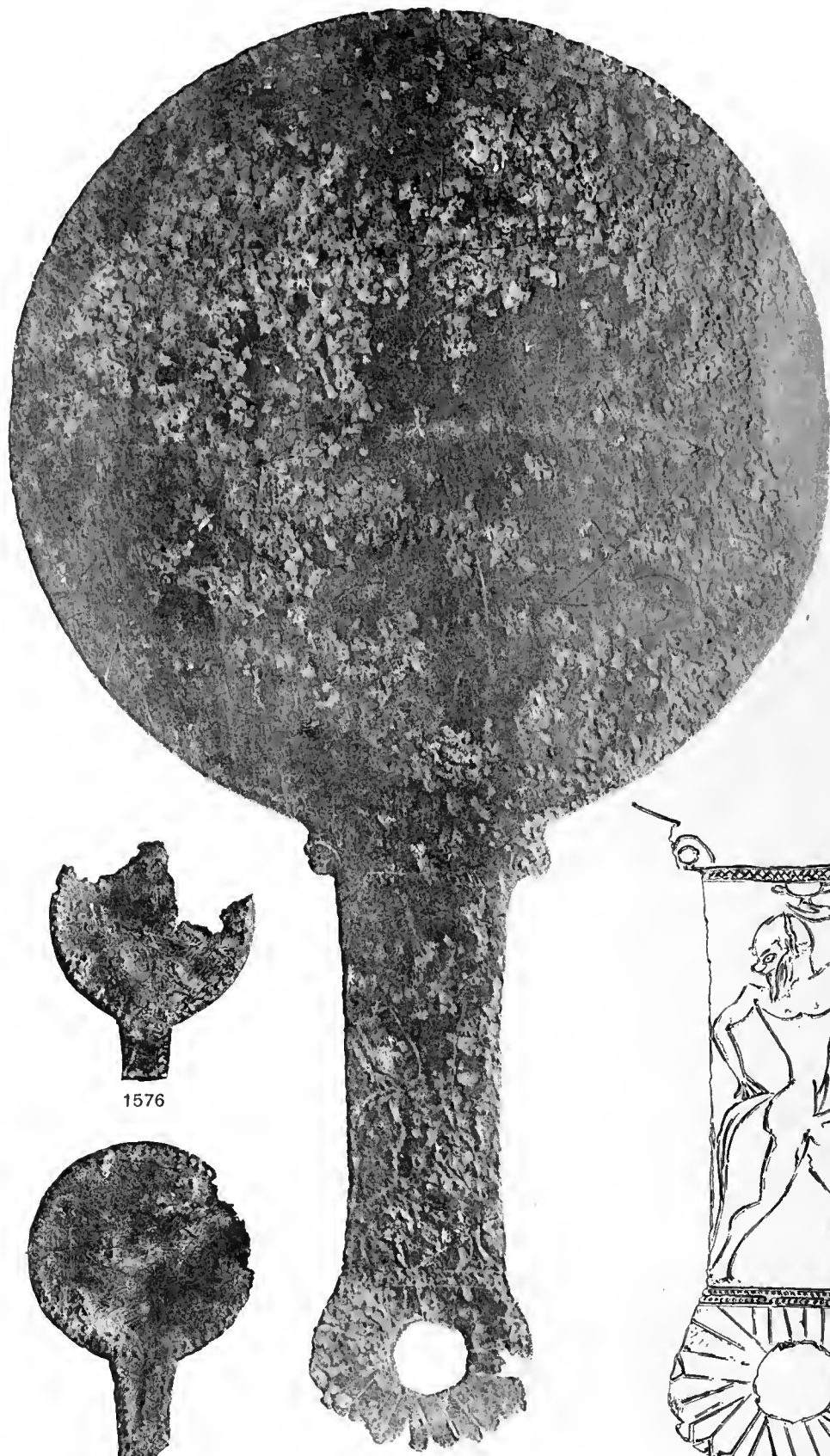
BRONZES.—STRUCTURAL RINGS ETC. BEADS, PENDANTS, MIRRORS



BRONZES.—MIRRORS



BRONZES.—MIRRORS

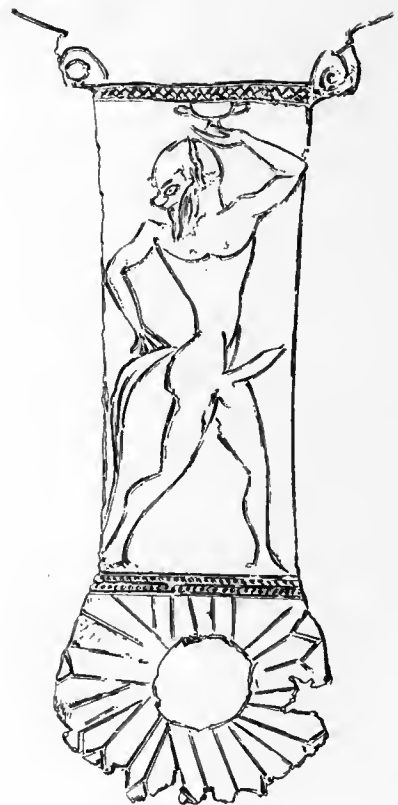


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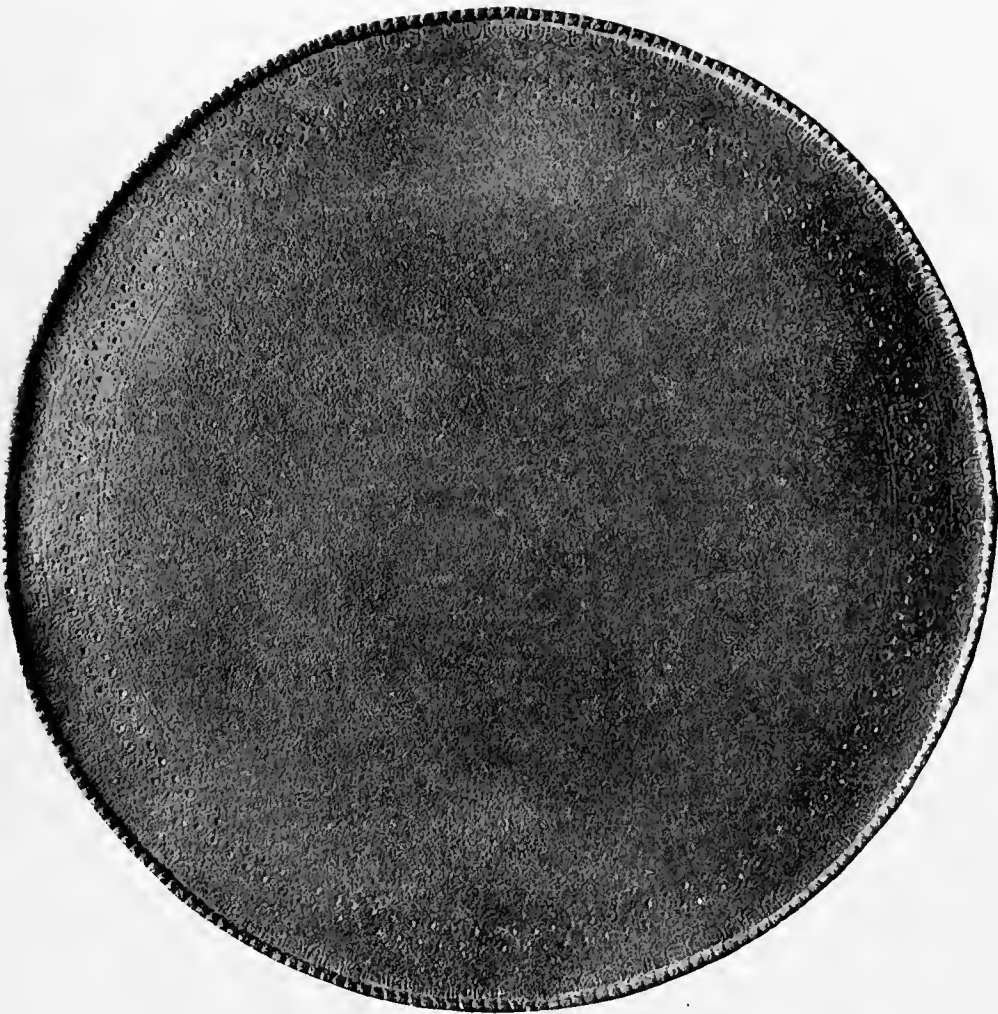


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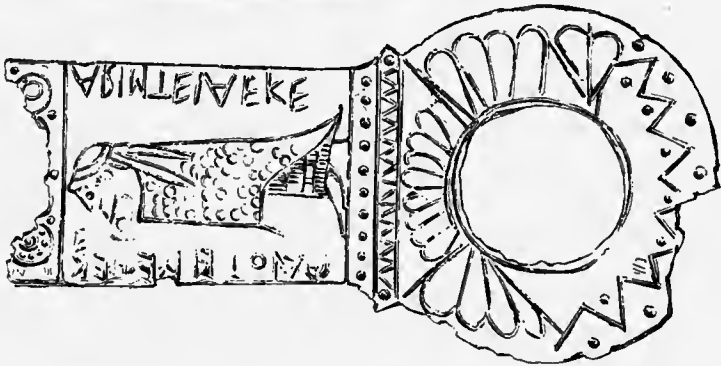
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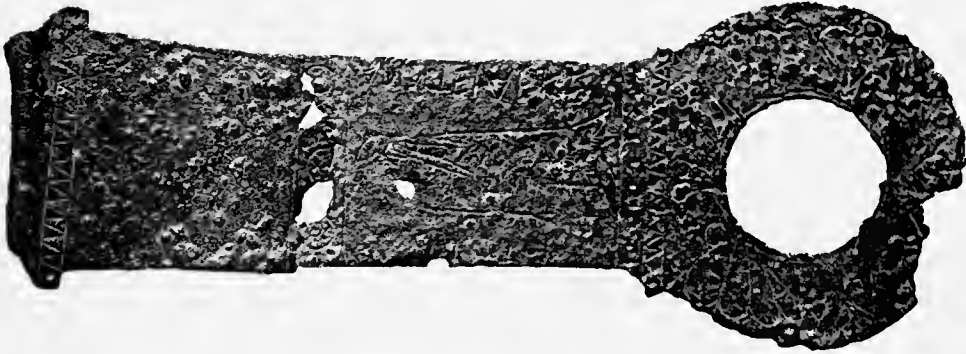
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1588



(1581)



1581

BRONZES.—MIRRORS



1588

BRONZES.—MIRROR



1588. back.



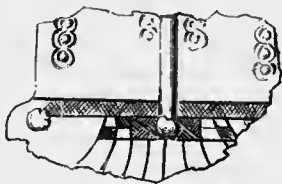
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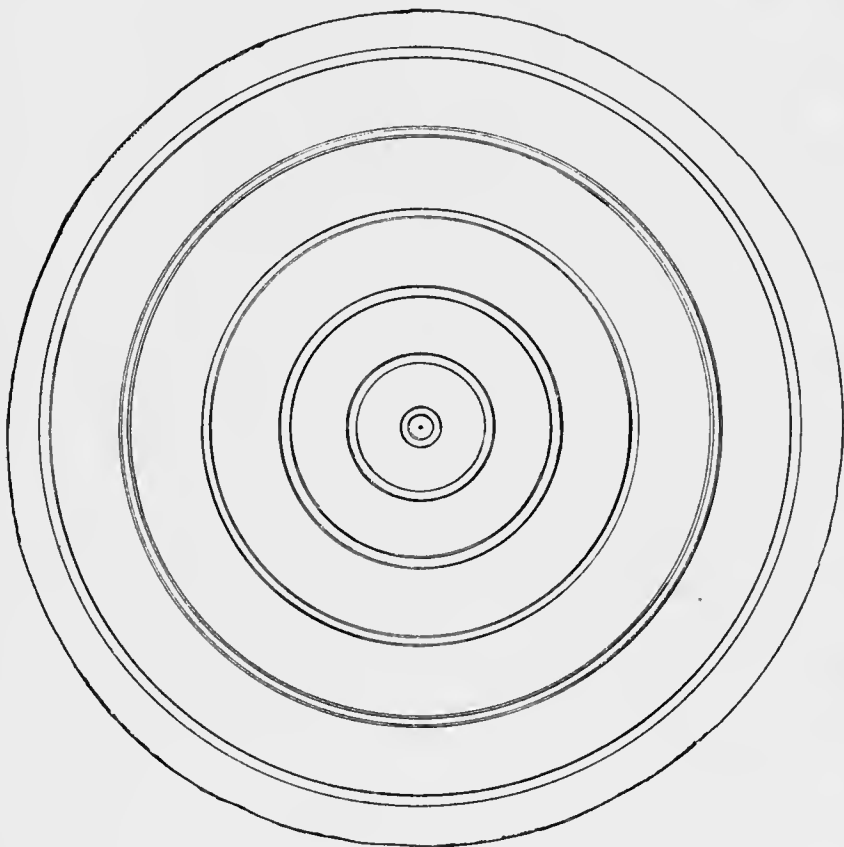
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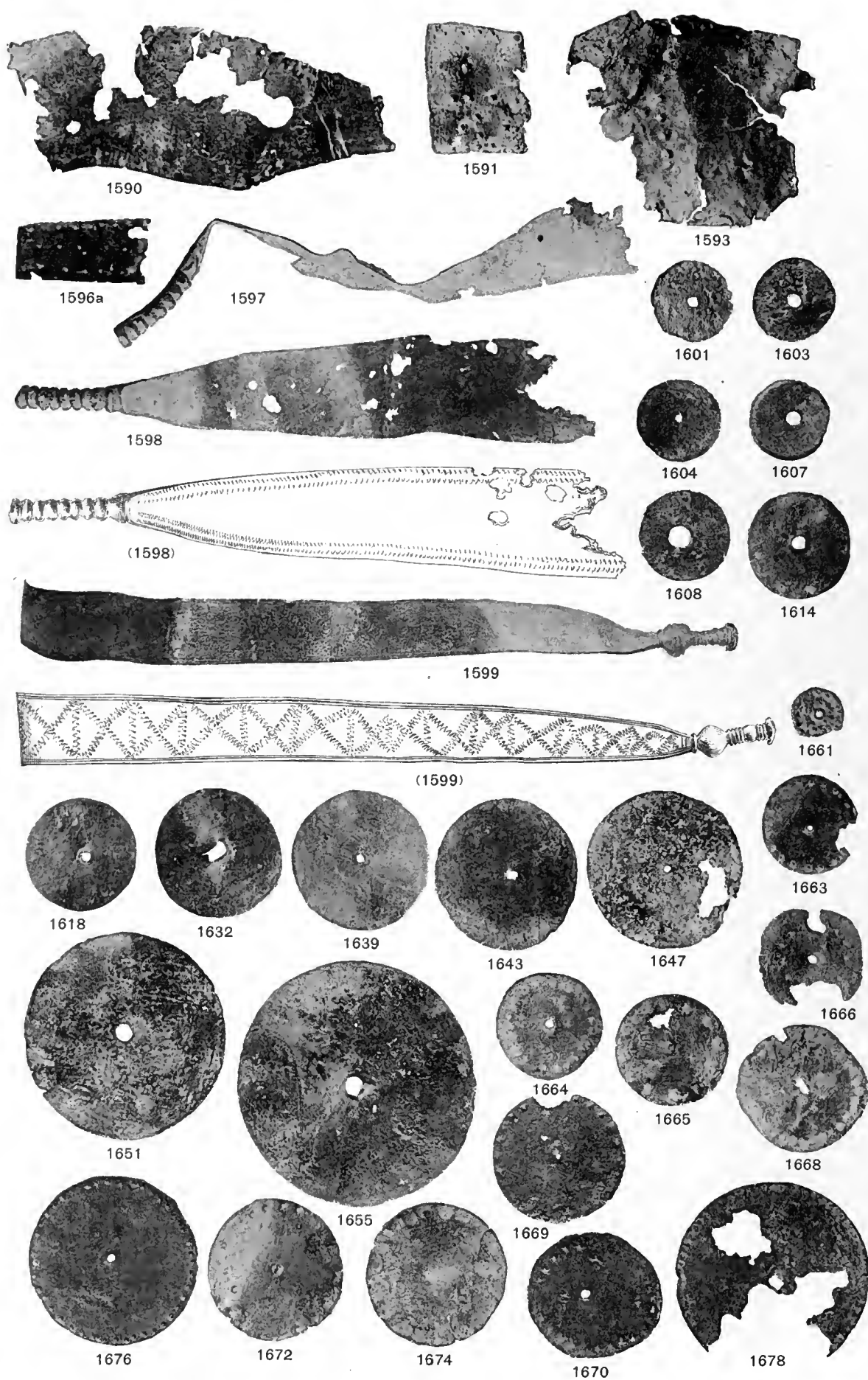
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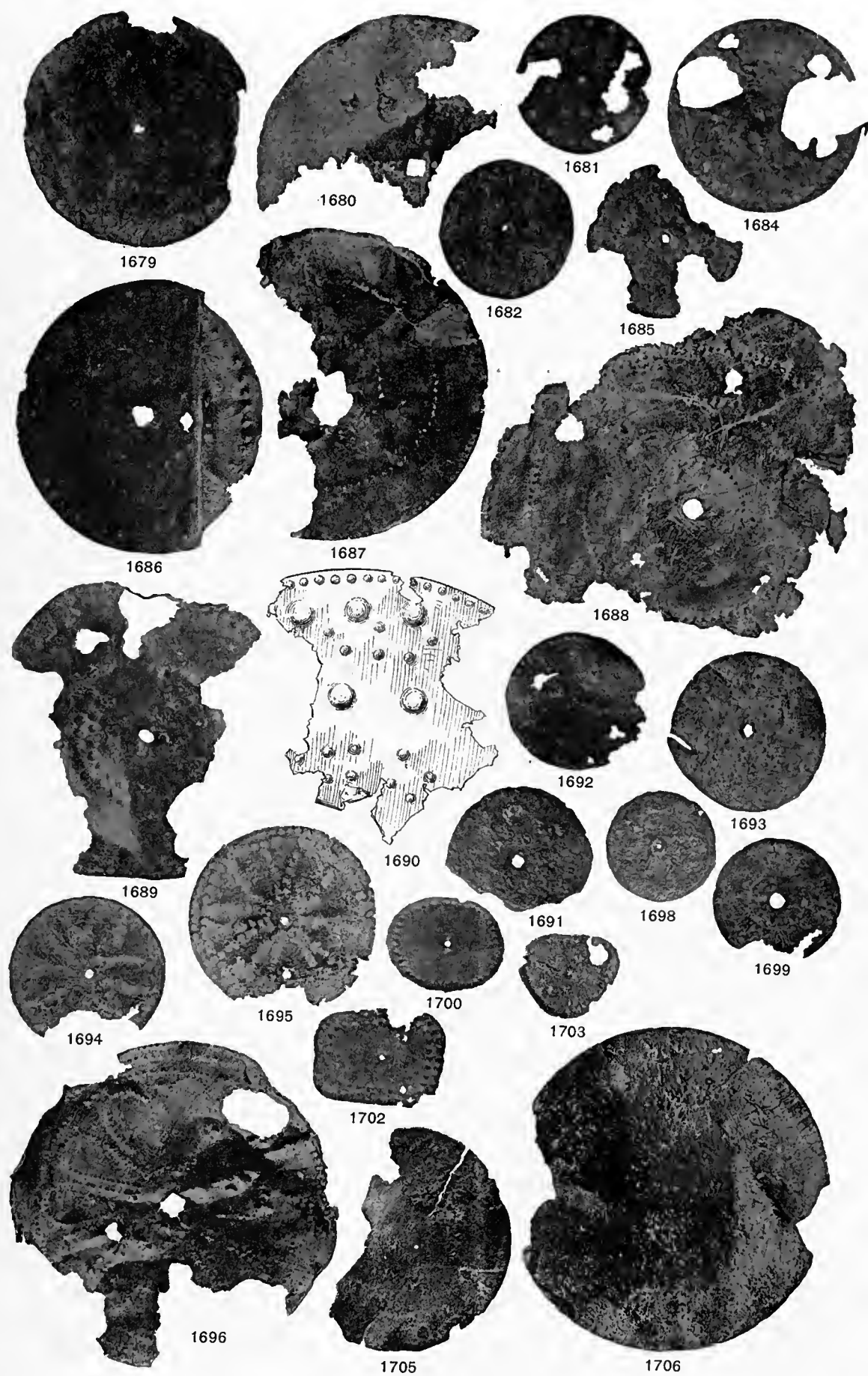


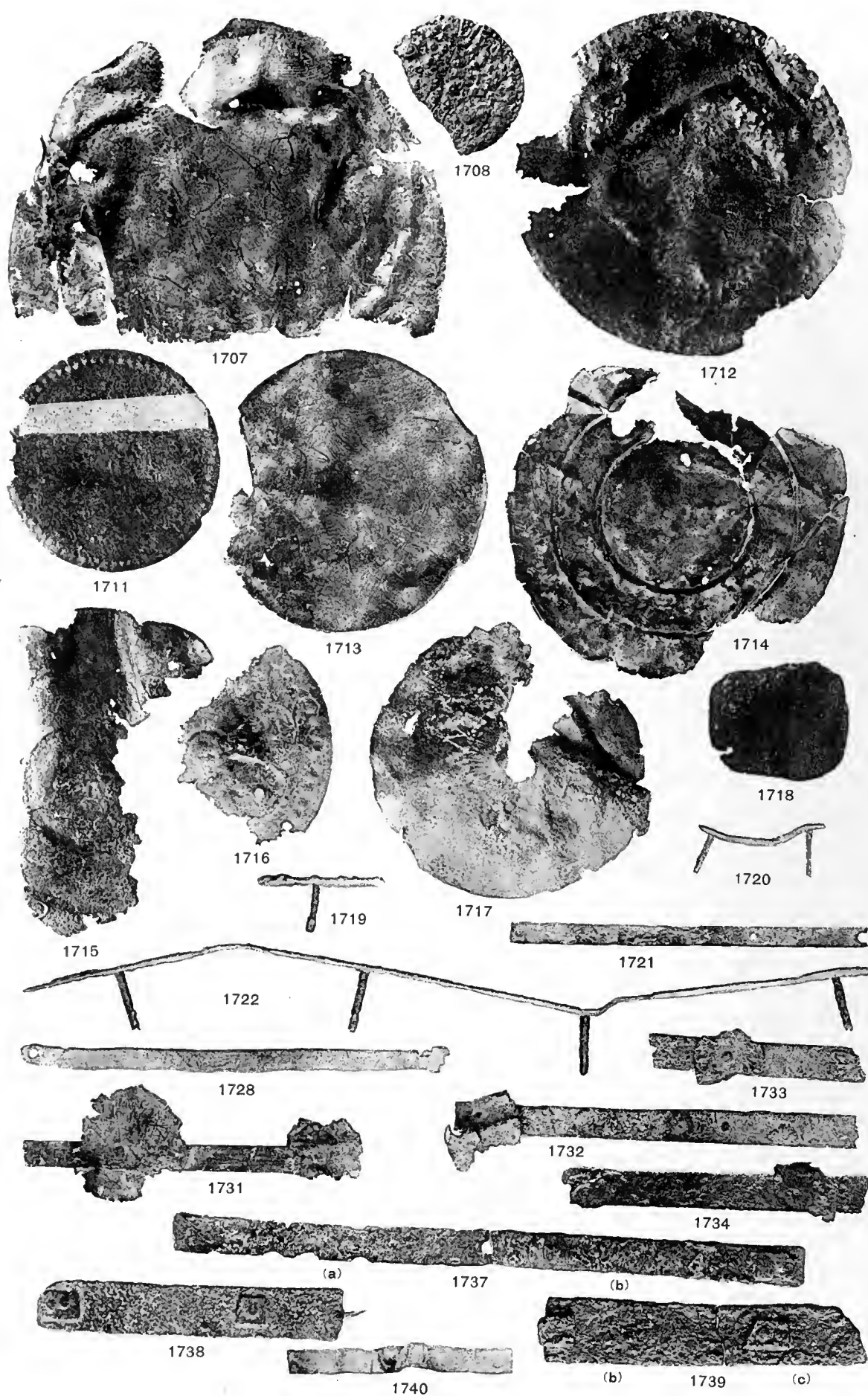
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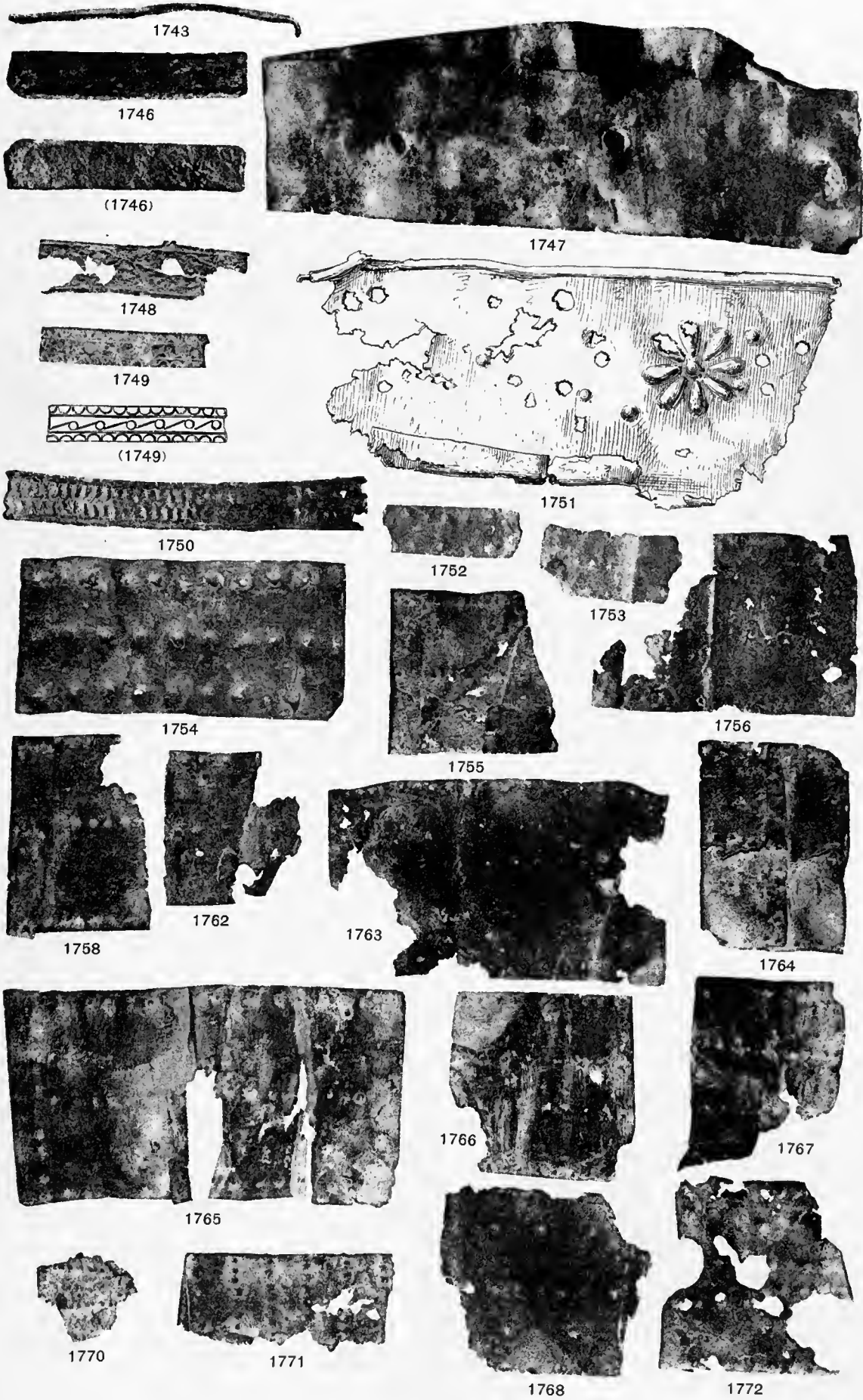
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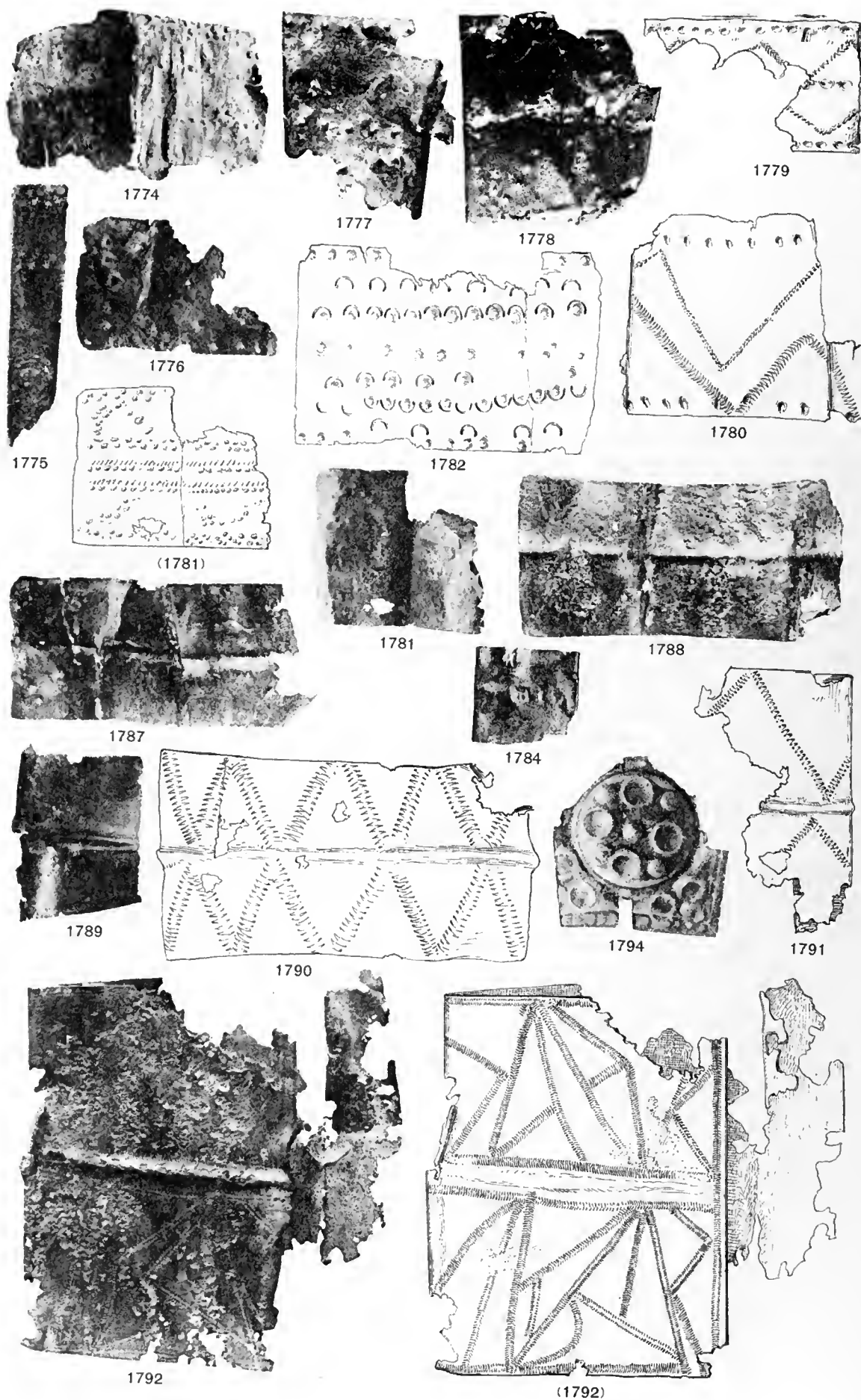


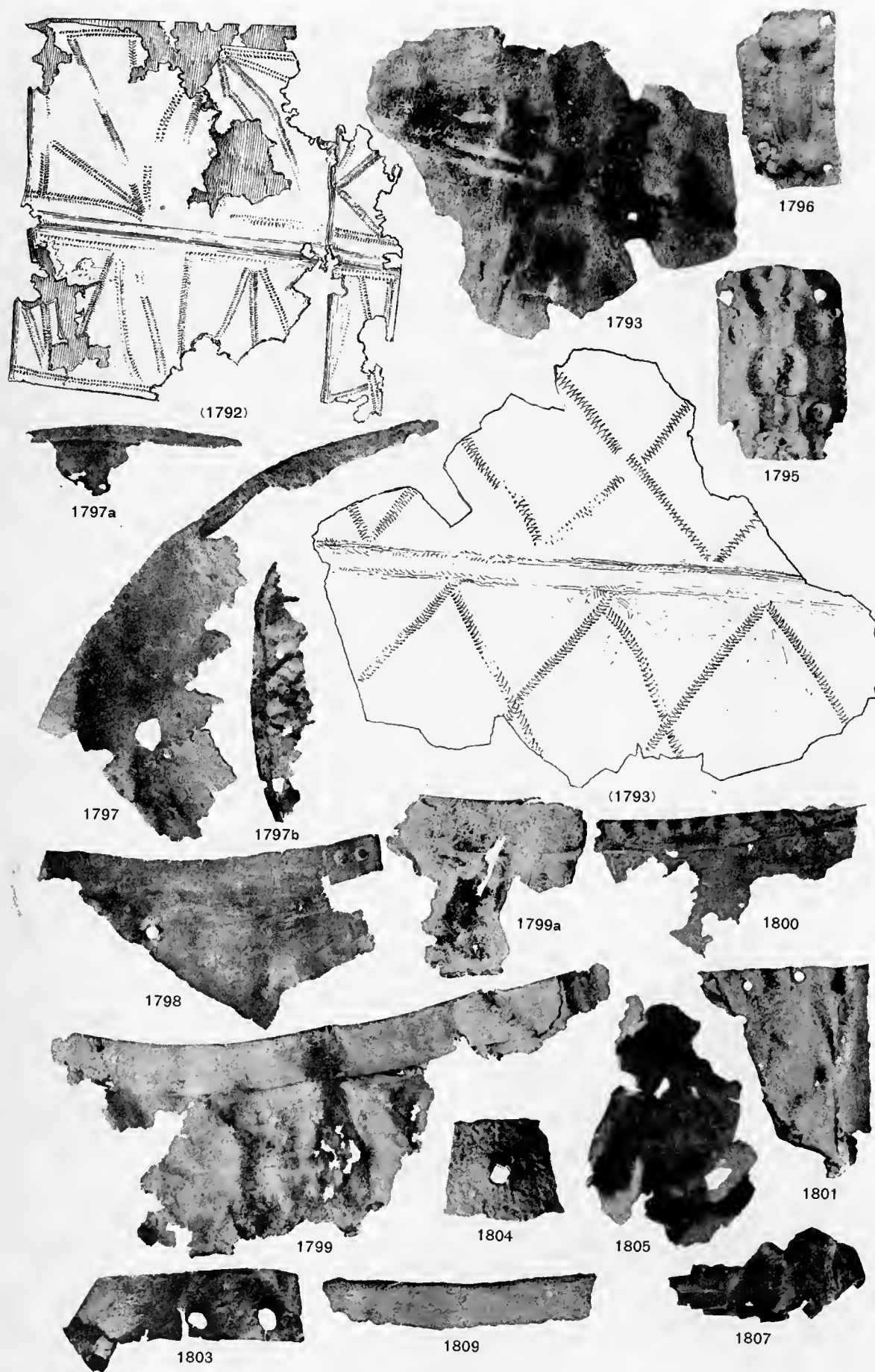


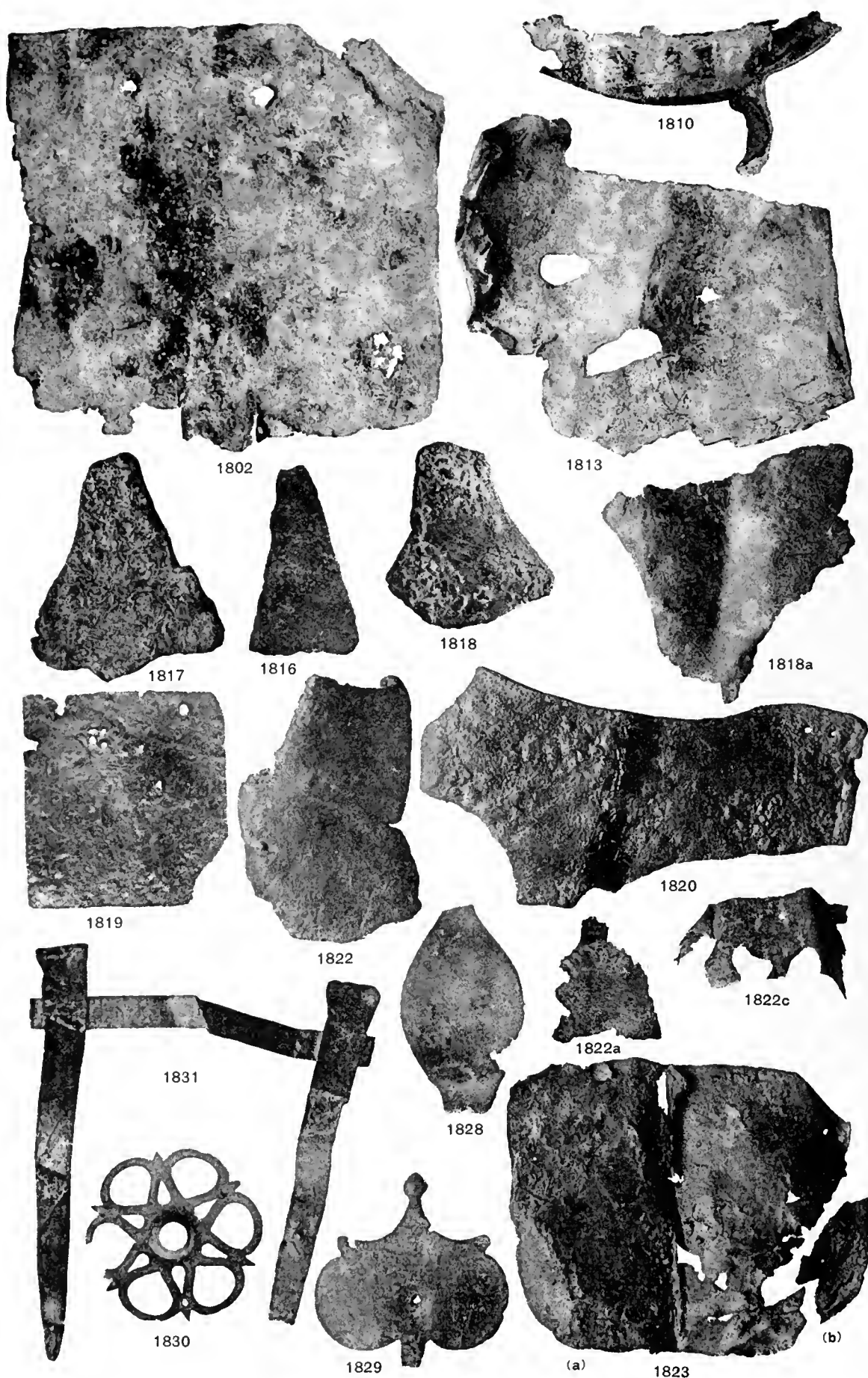
BRONZES.—DISCS, BINDING-STRIPS



BRONZES.—BINDING-STRIPS, ORNAMENTED BANDS, COATINGS

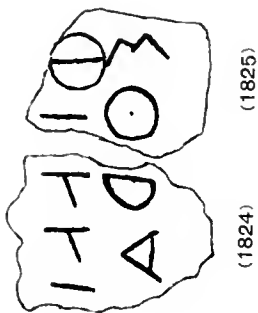
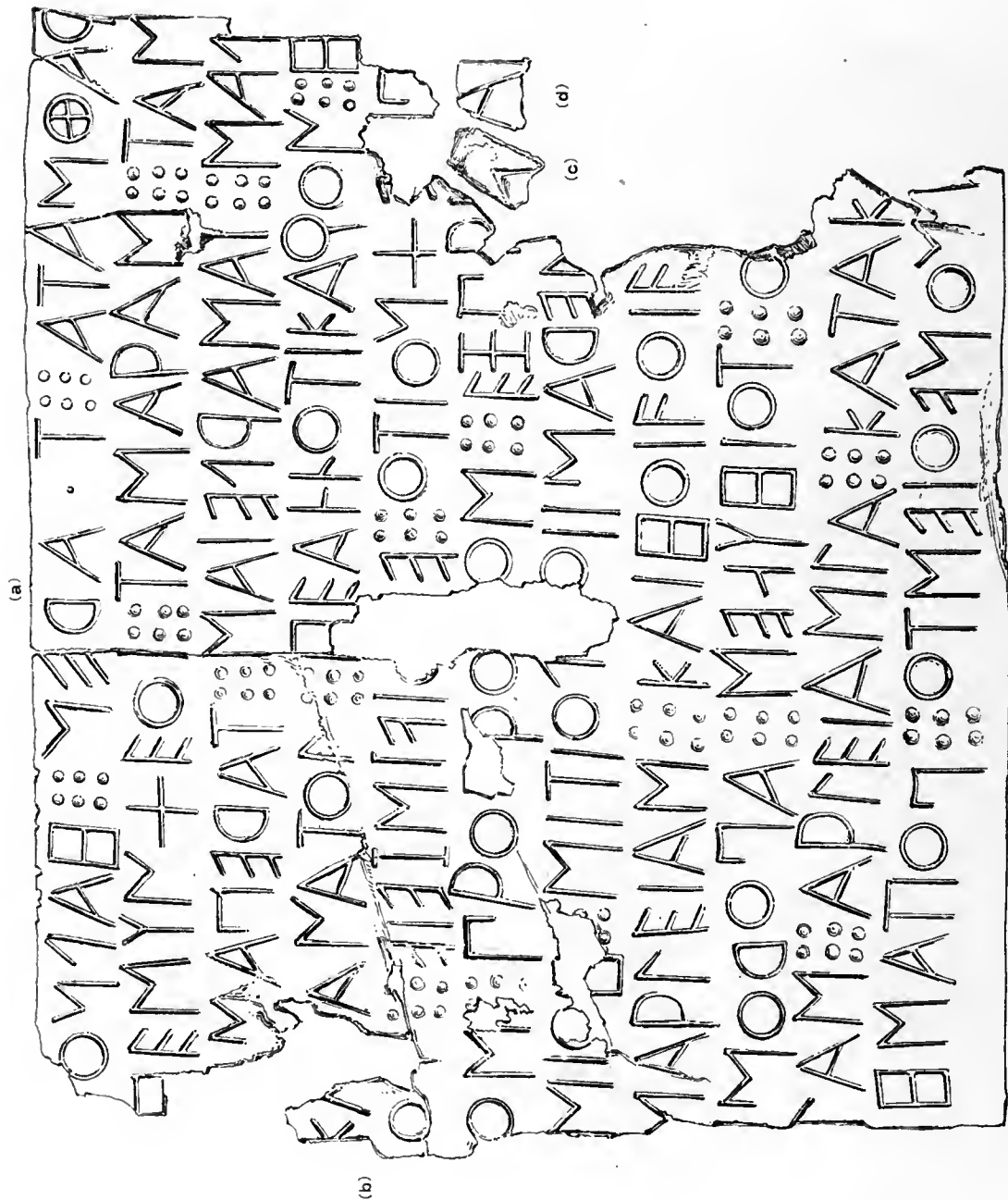




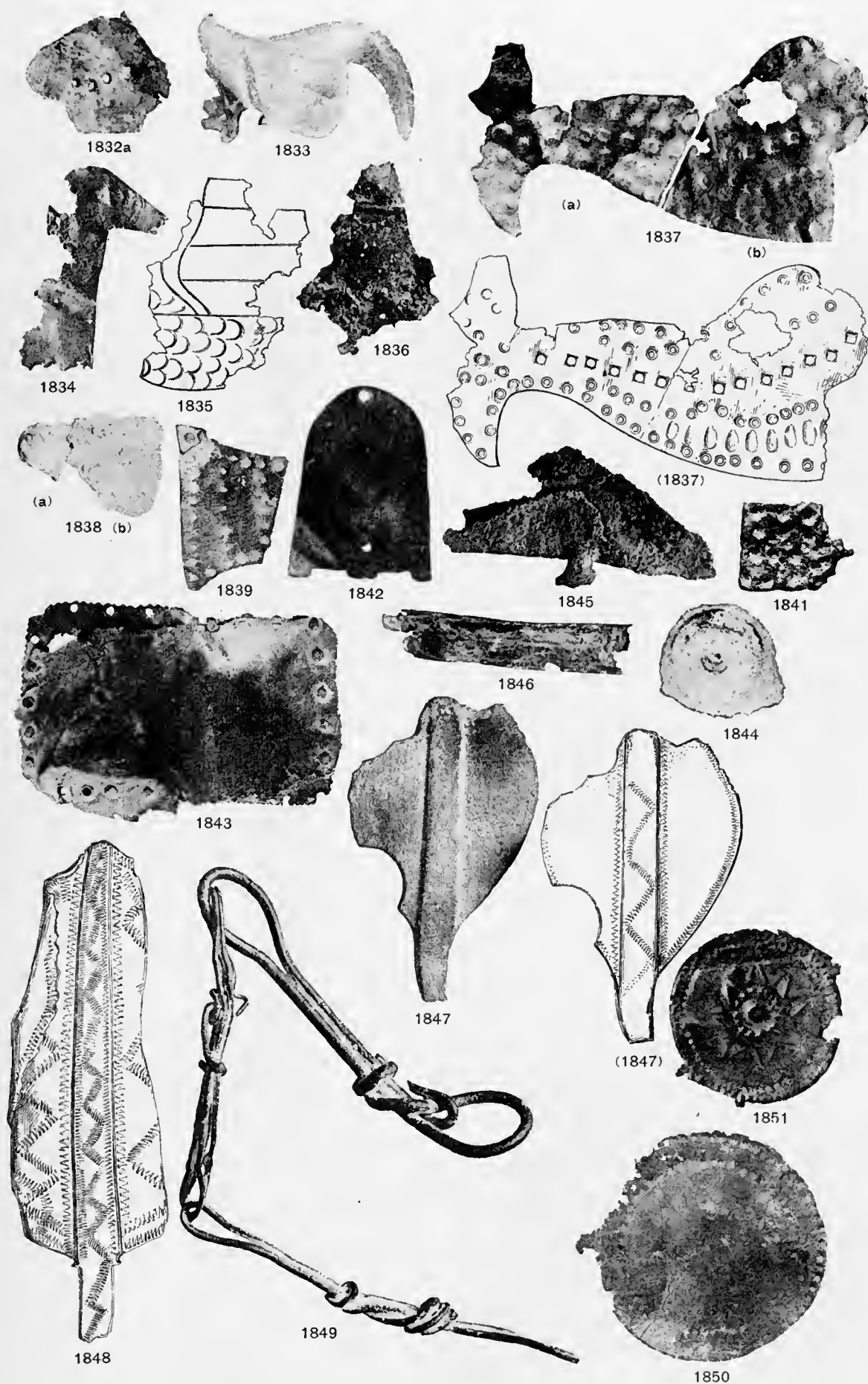




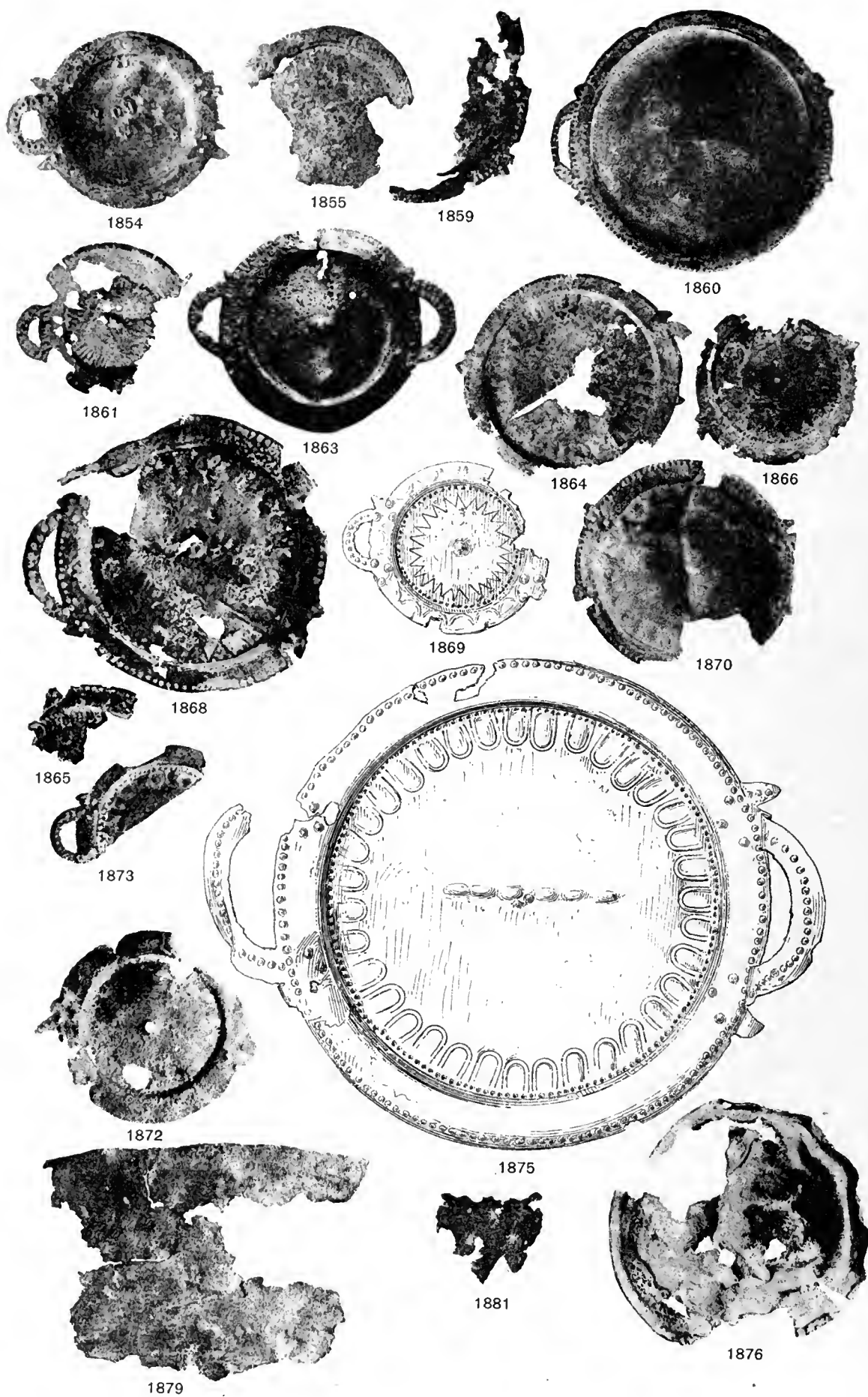
BRONZES.—PLATE WITH INSCRIPTION



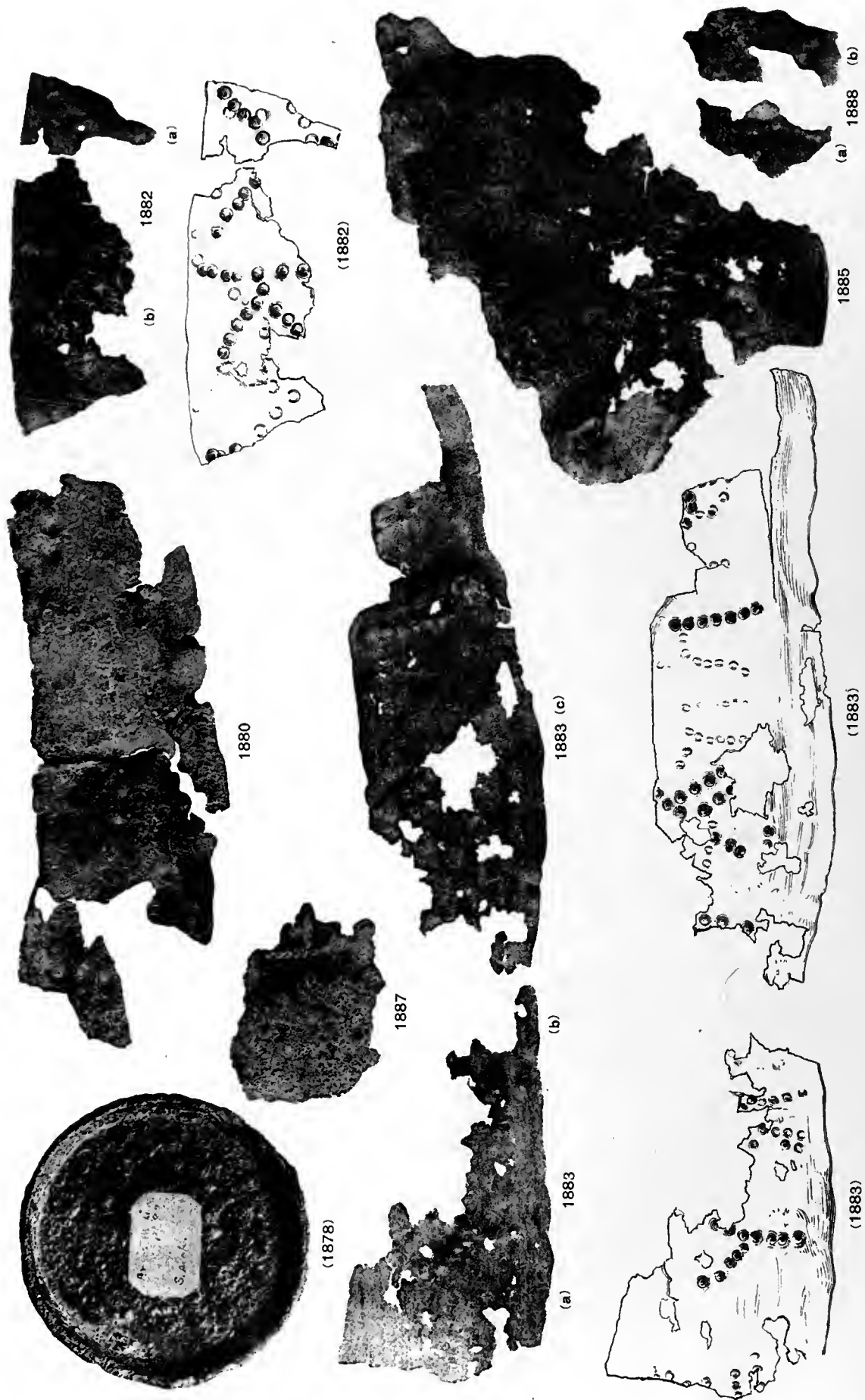
BRONZES.— PLATE WITH INSCRIPTION



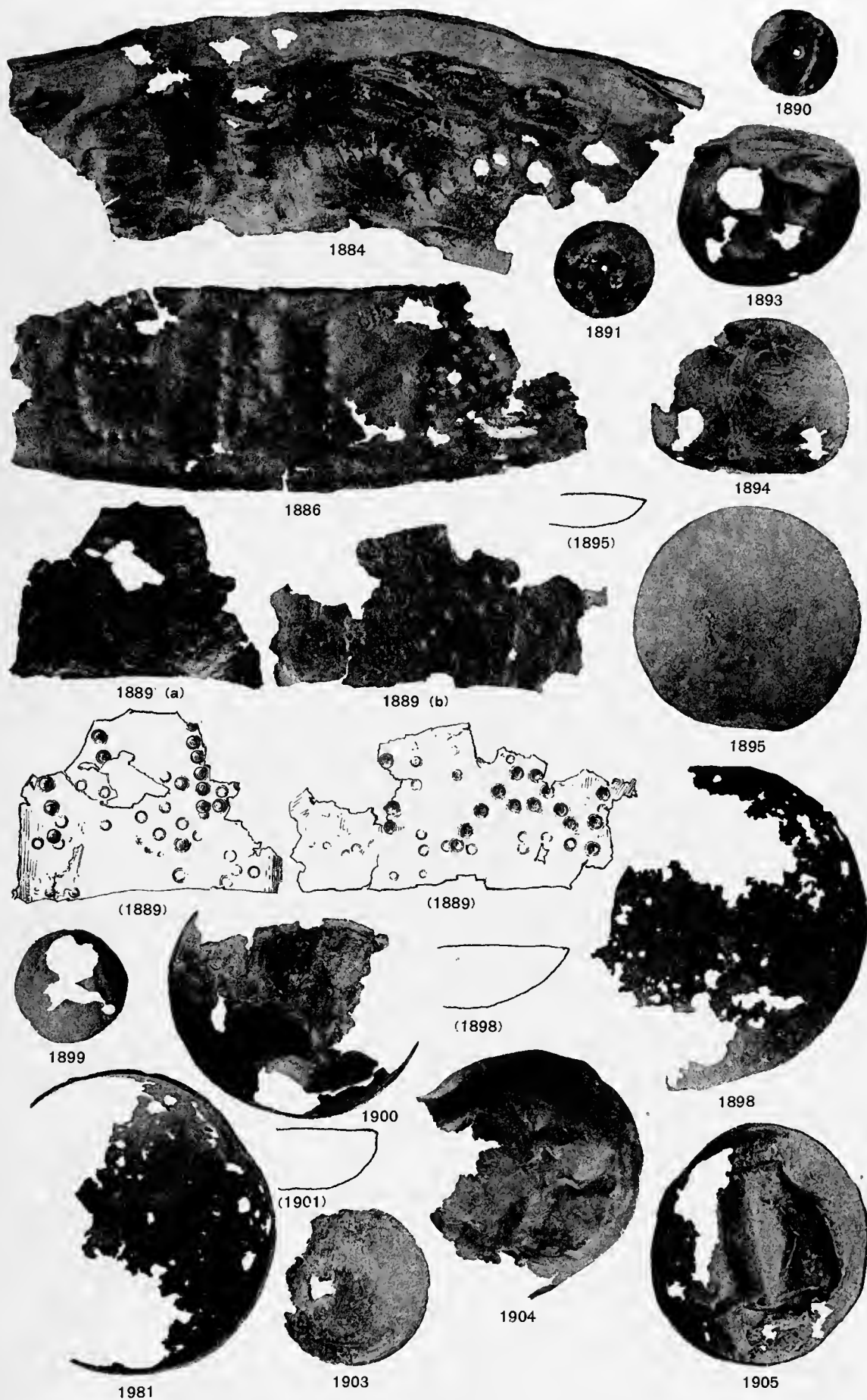
BRONZES.—FIGURES, ETC. LEAVES, THONG, PLATES

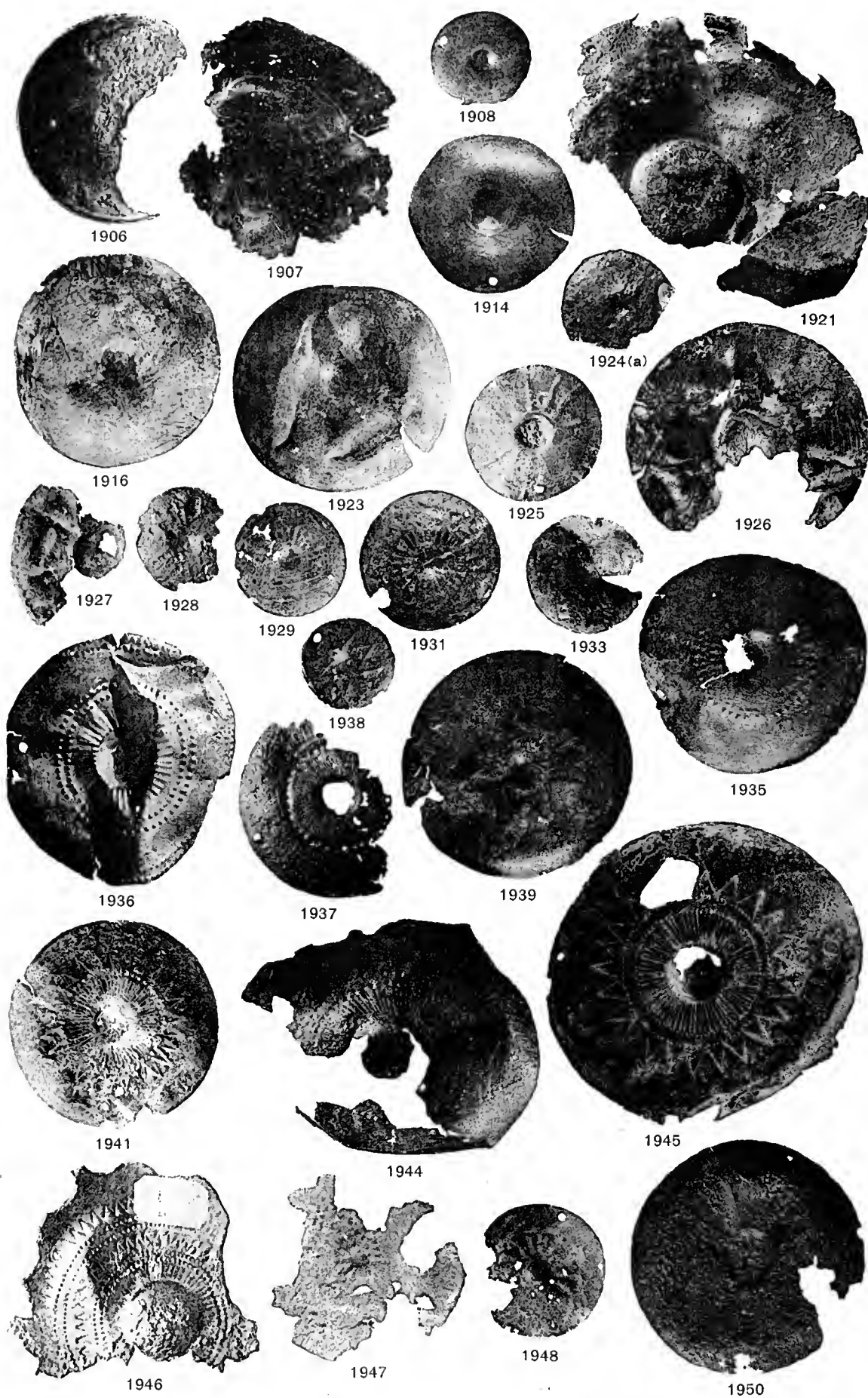


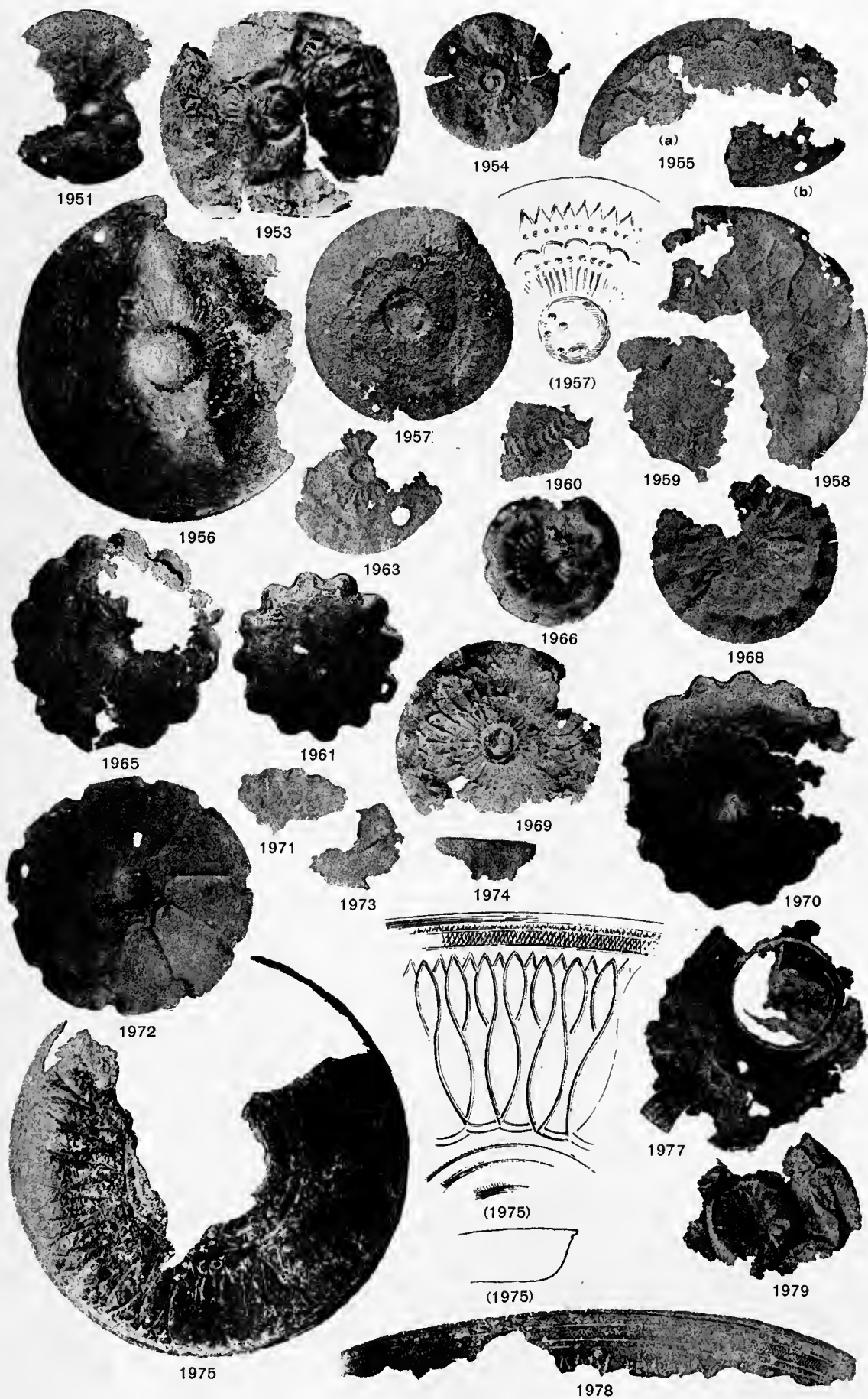




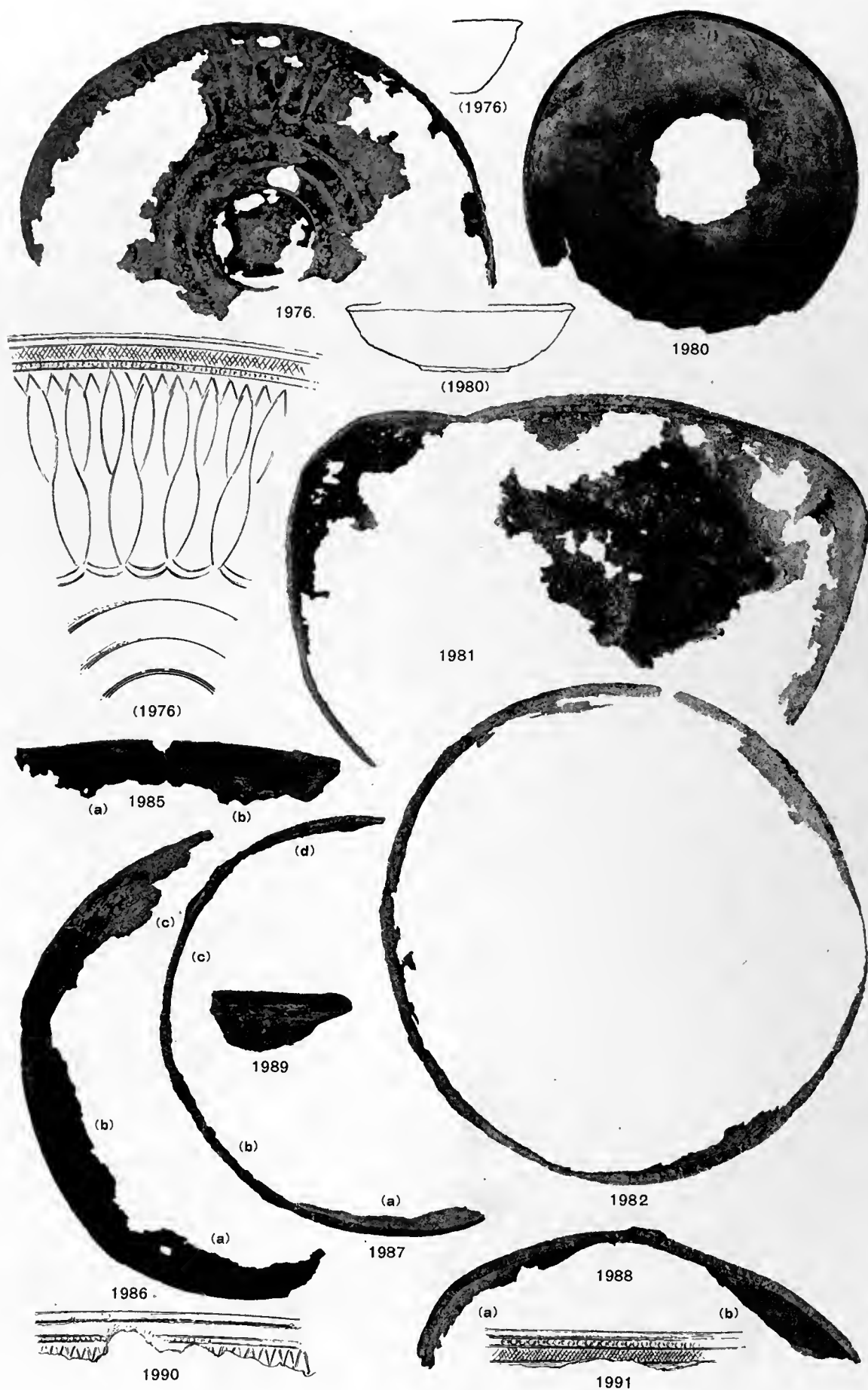
BRONZES.—PLATES, PLATTERS

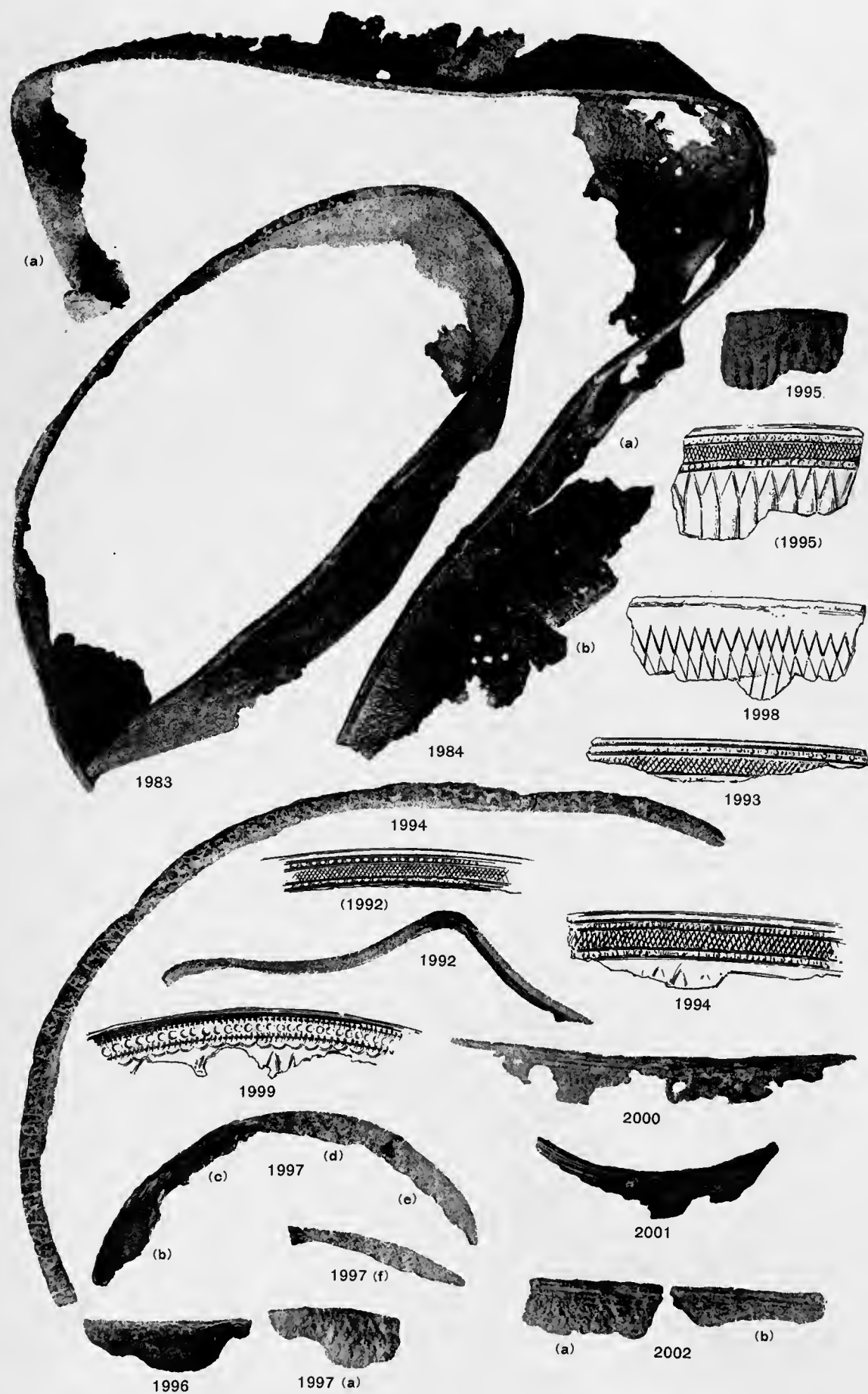


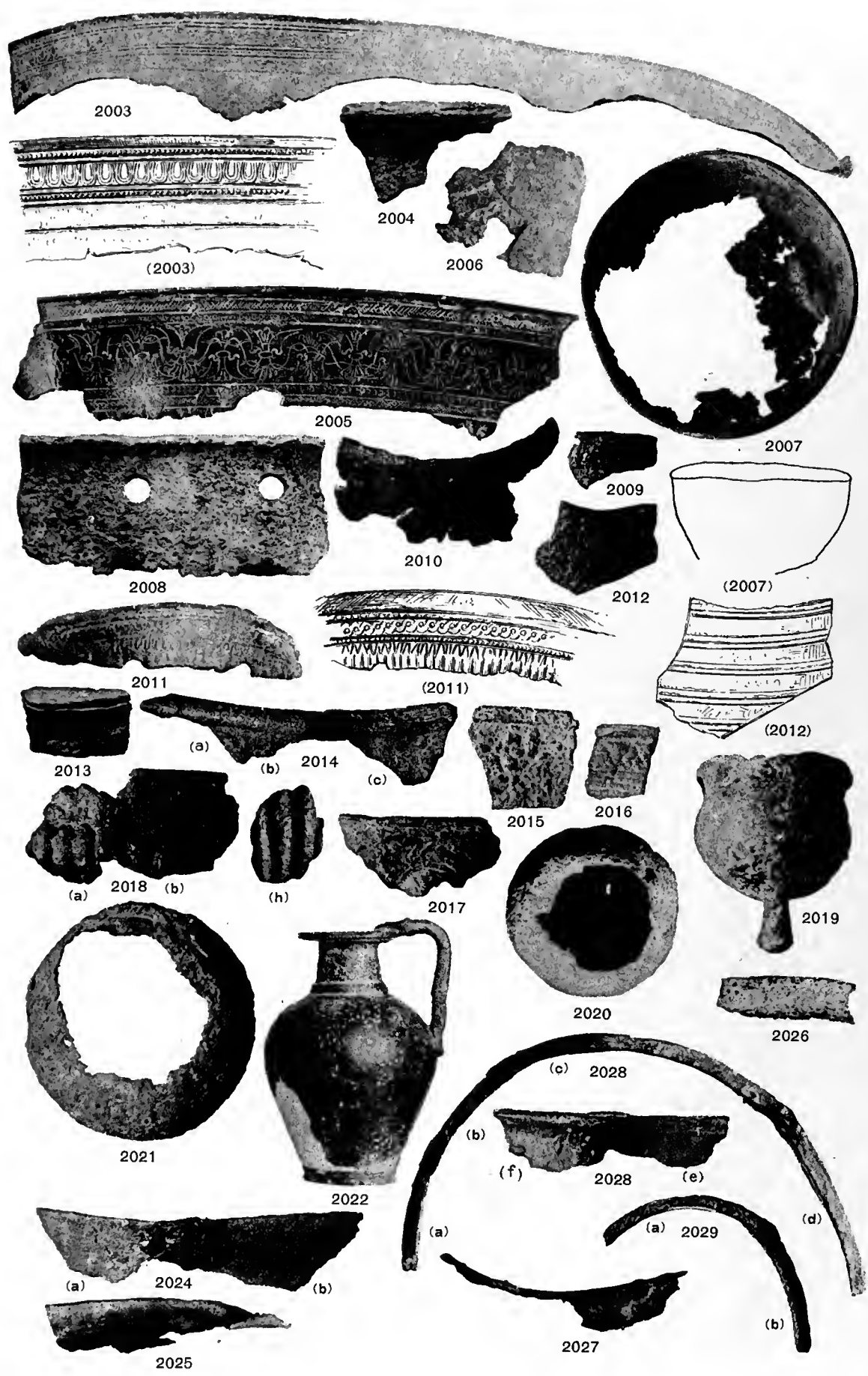




BRONZES.—SAUCERS







BRONZES.—BOWLS SUSPENSION VASE, ETC. PITCHER, JARS



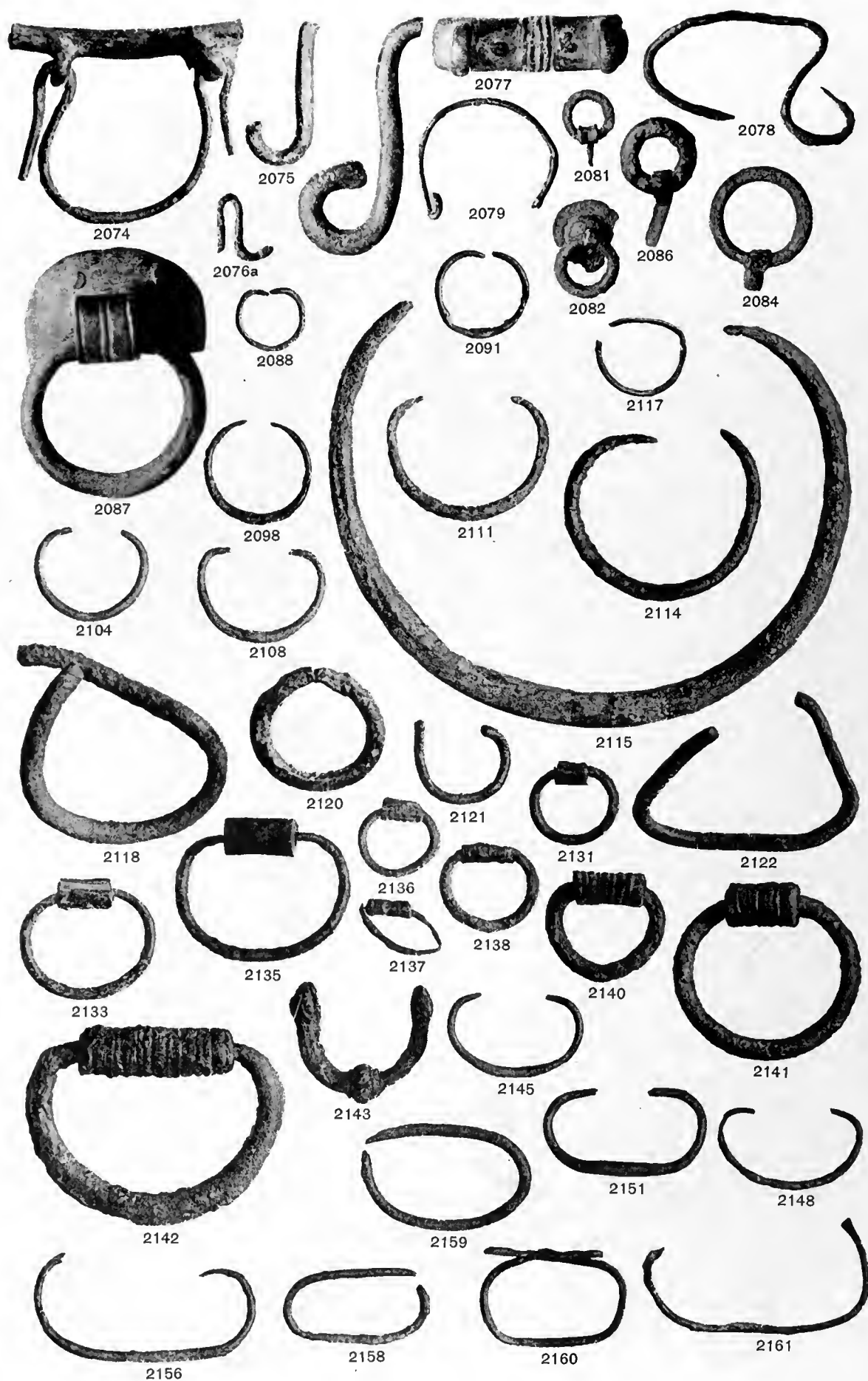
BRONZES.—JARS, BASIN



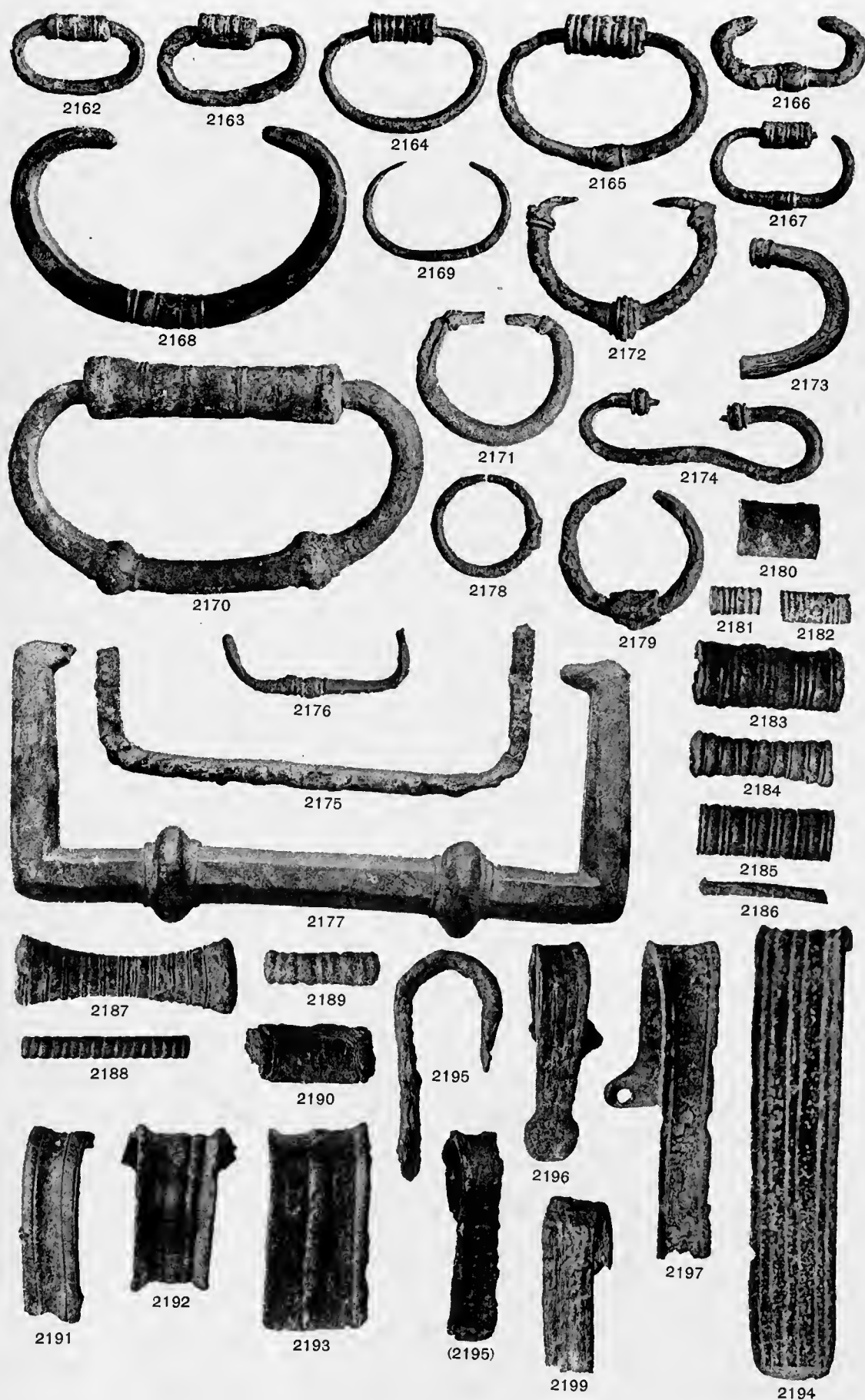
BRONZES.—CAULDRON, BOSSES, HORIZONTAL HANDLES



BRONZES.—HORIZONTAL HANDLES



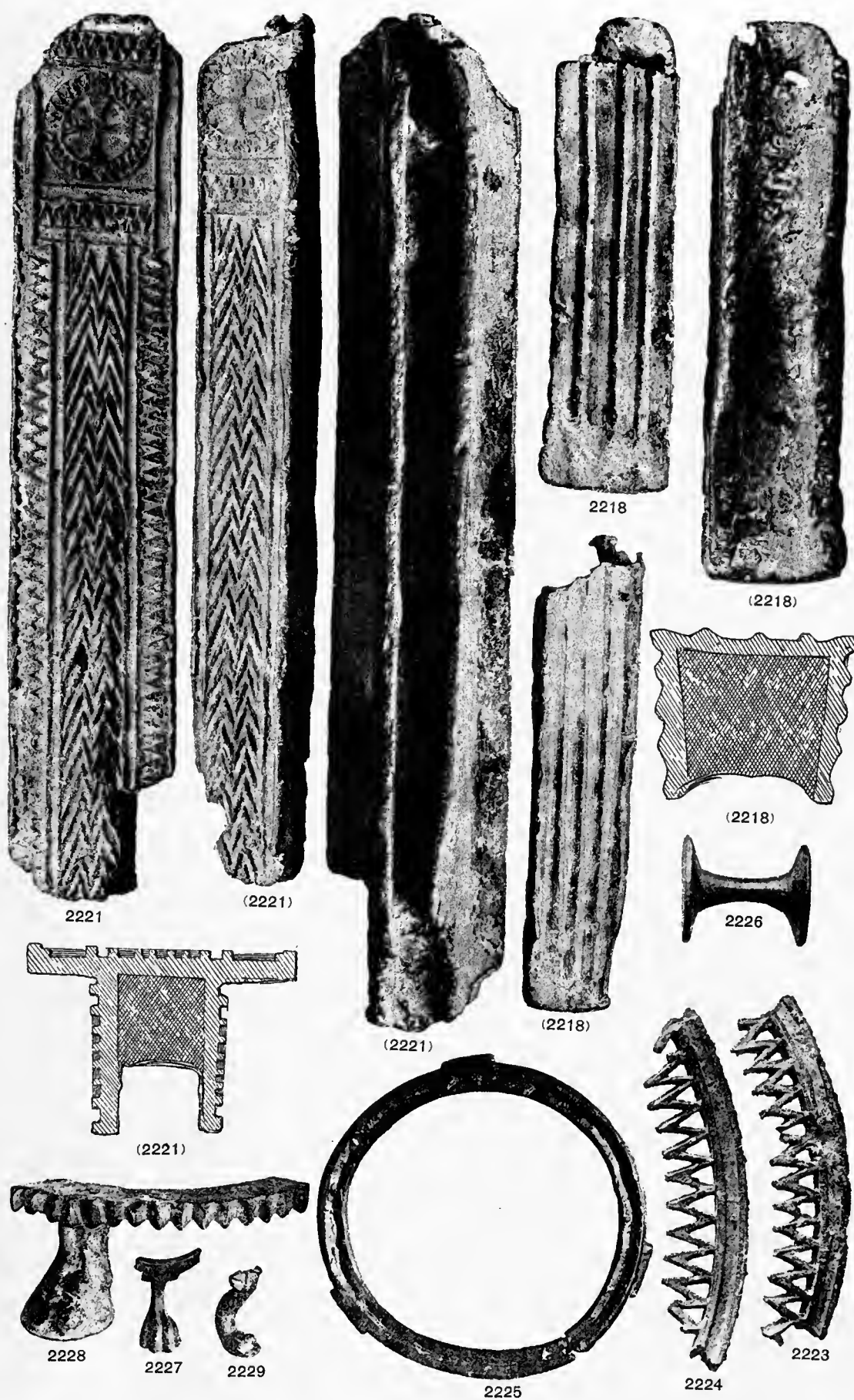
BRONZES.—HORIZONTAL HANDLES



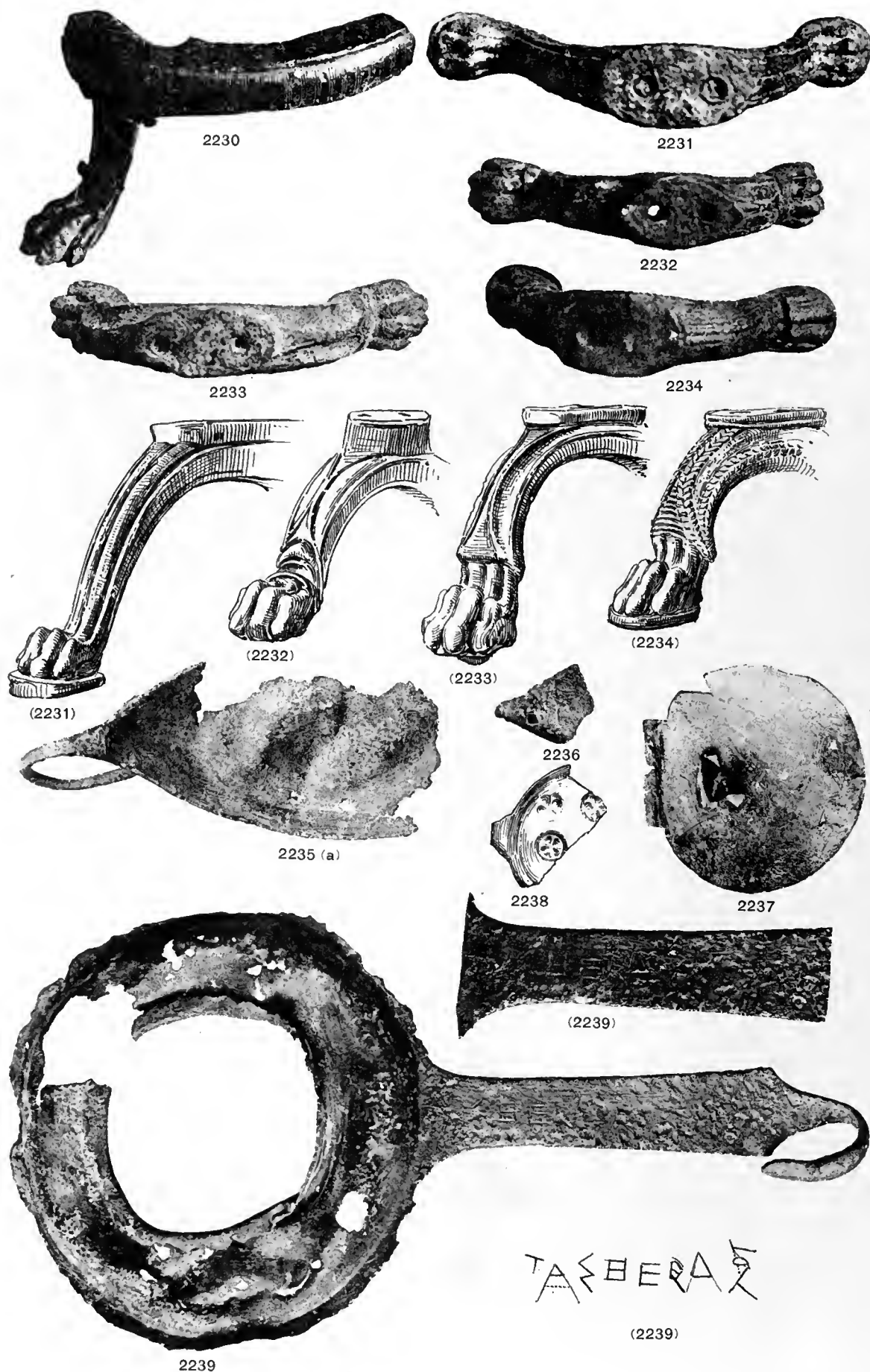
BRONZES.—HORIZONTAL AND VERTICAL HANDLES

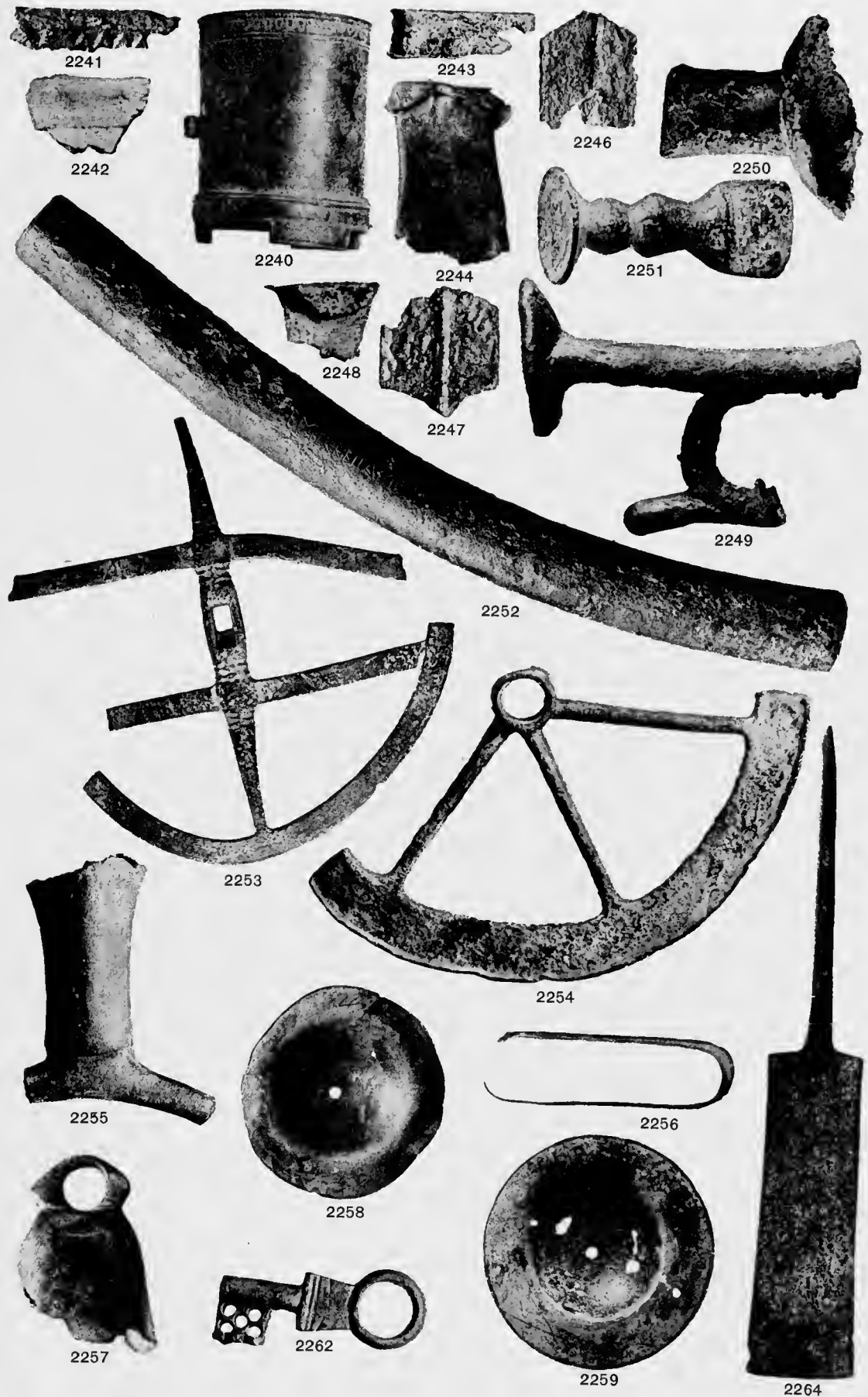


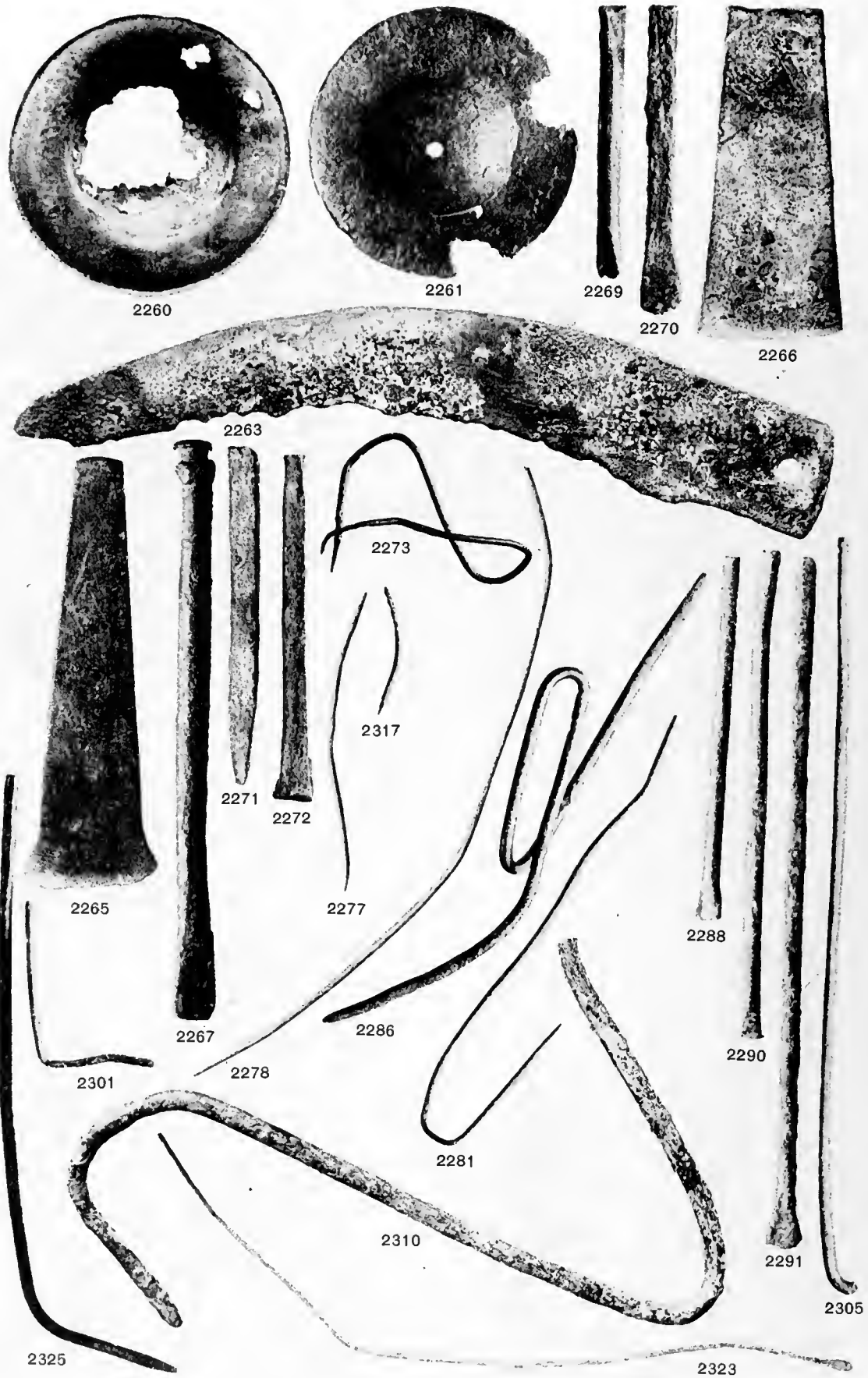
BRONZES.—VERTICAL HANDLES, VARIOUS ORNAMENTS, FRAGMENTS OF LARGE TRIPODS.



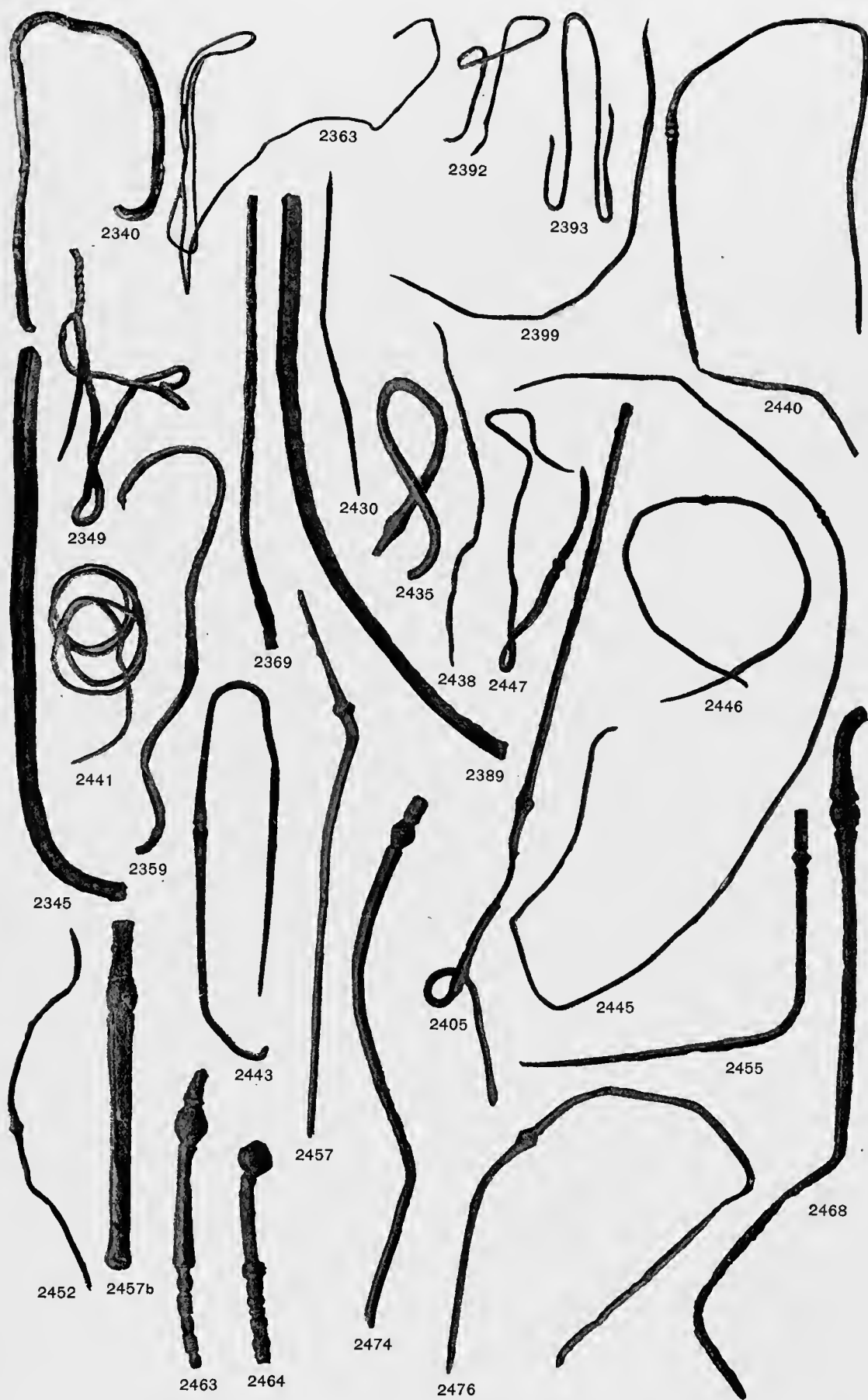
BRONZES.—FRAGMENTS OF LARGE TRIPODS. SMALL TRIPOD-STANDARDS

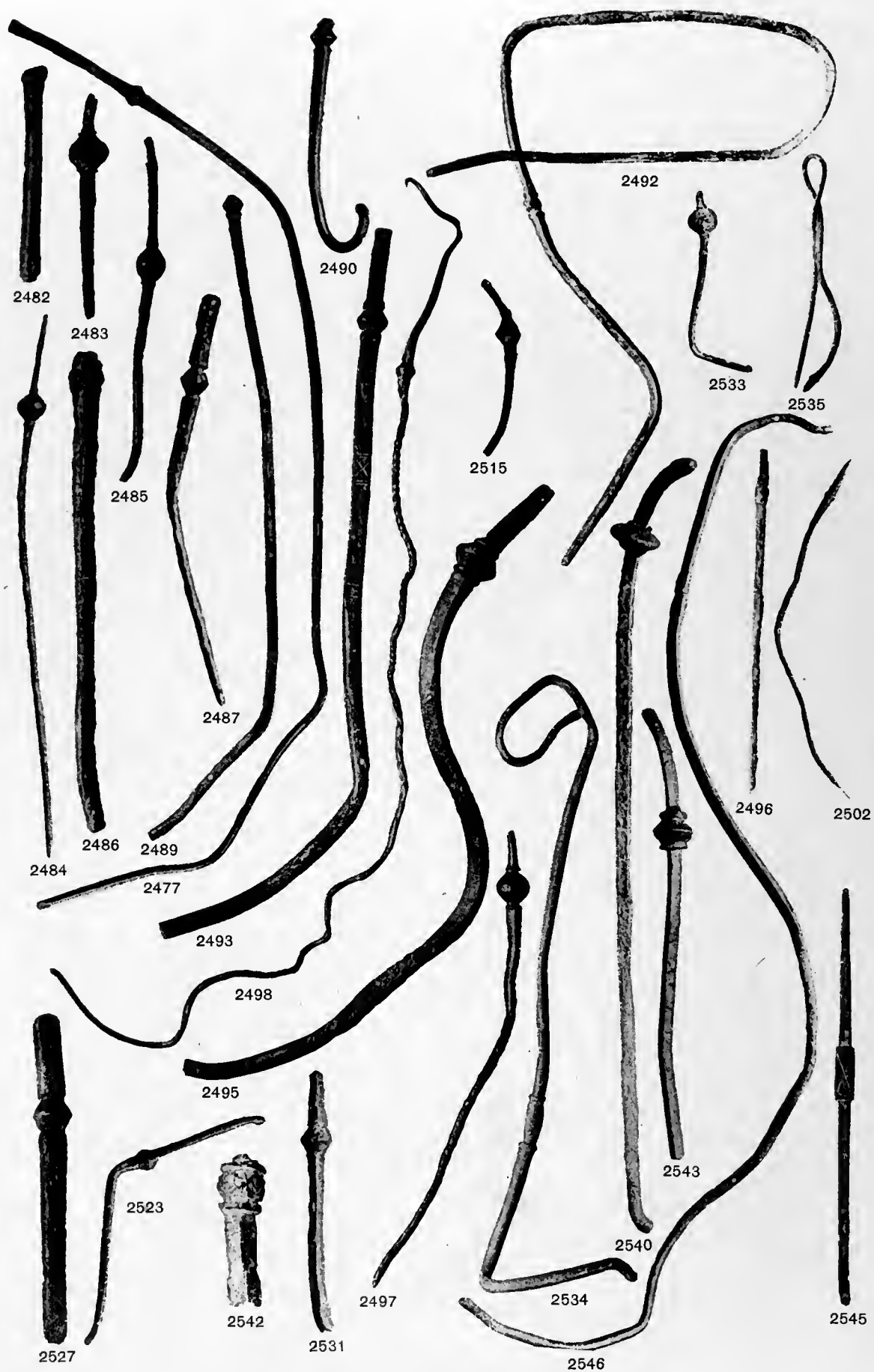


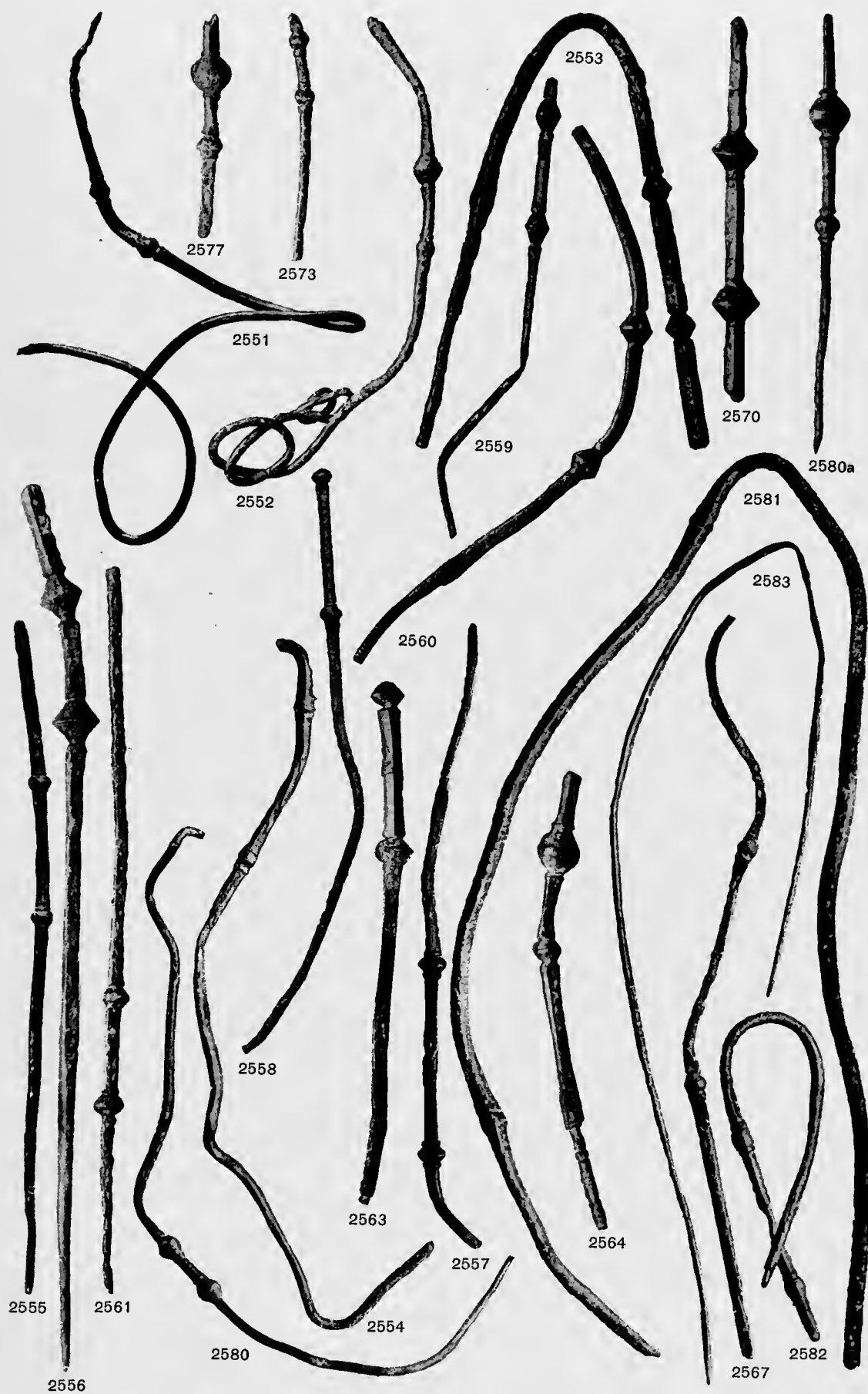


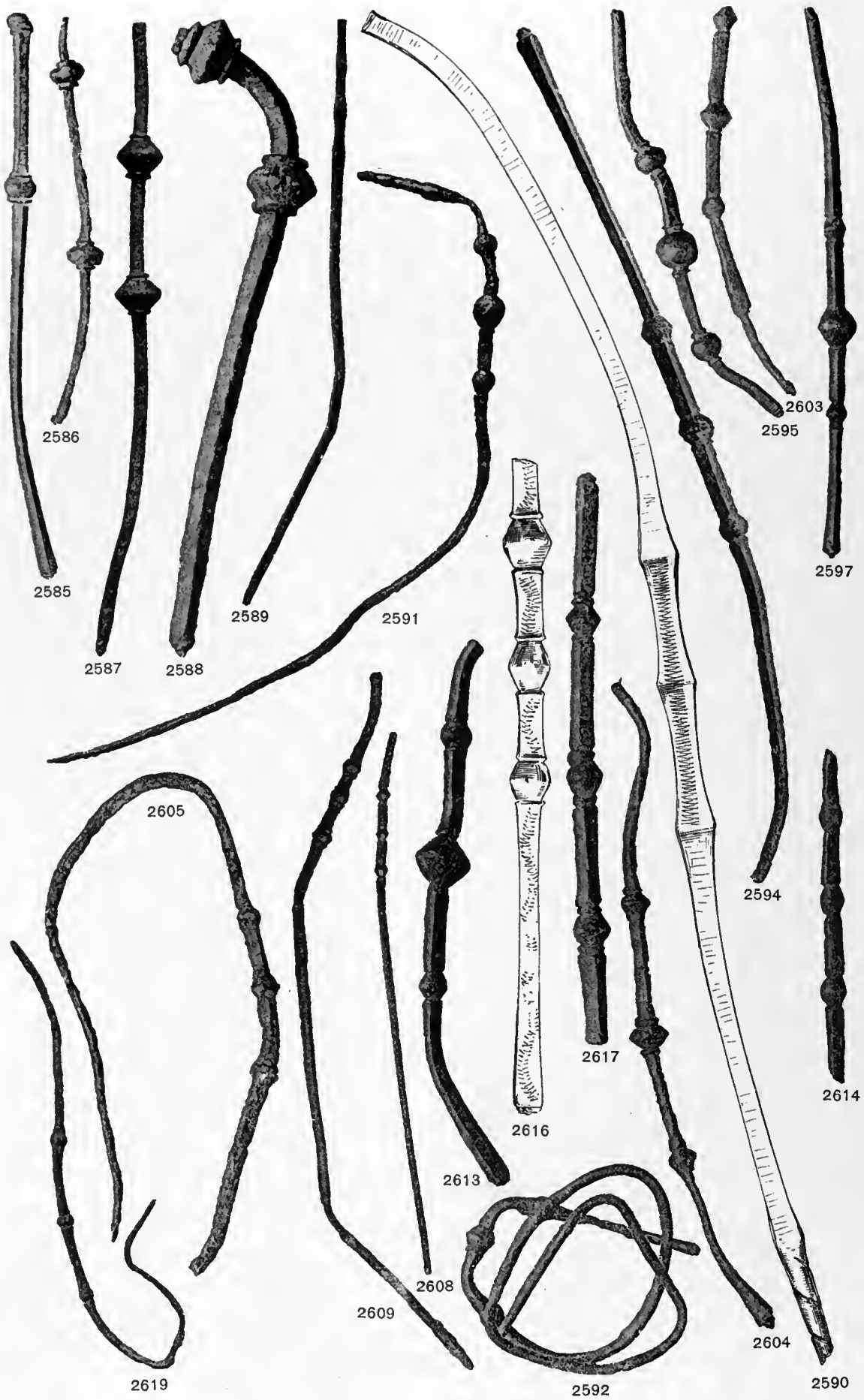


BRONZES.—VARIOUS IMPLEMENTS, SPITS

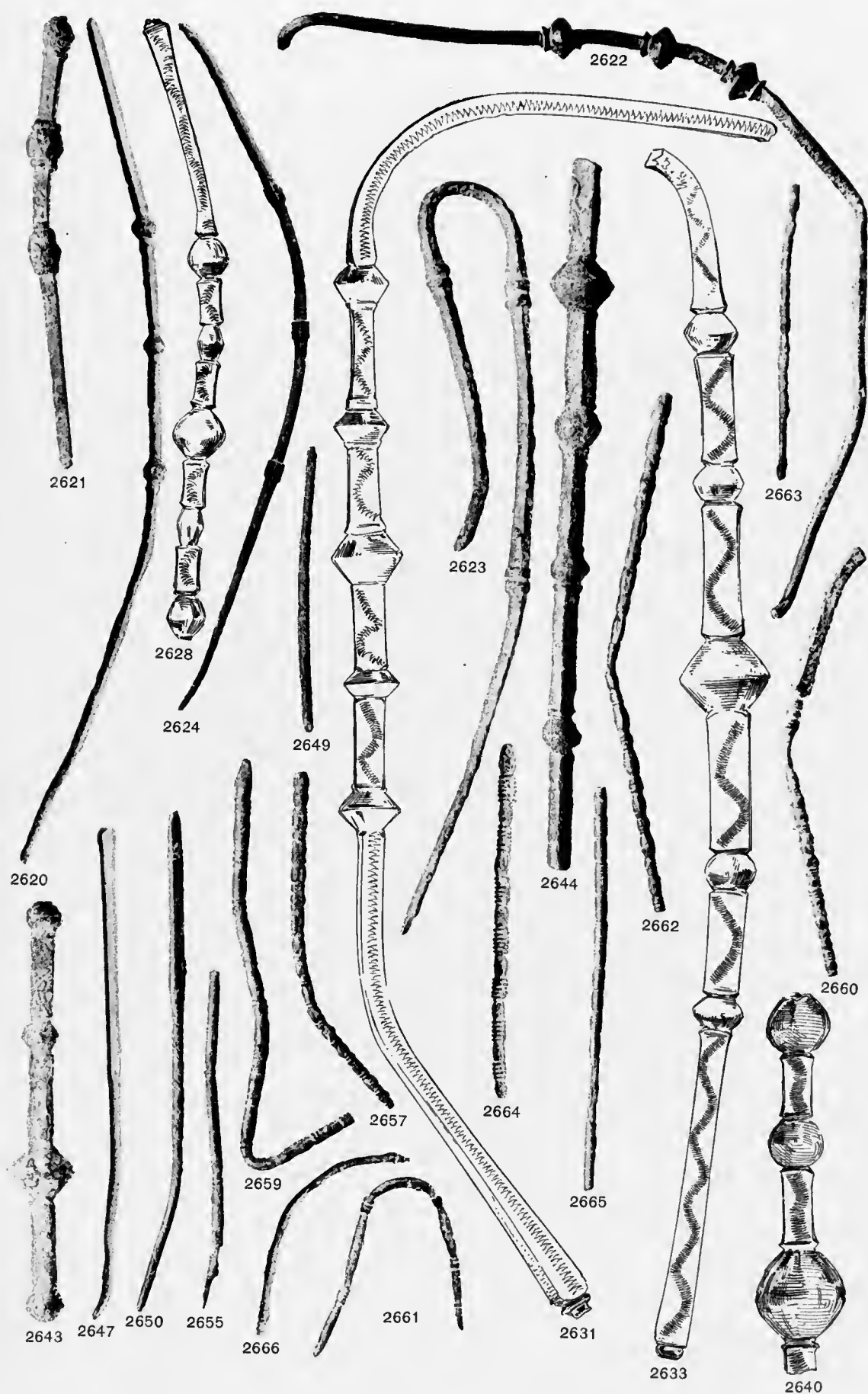


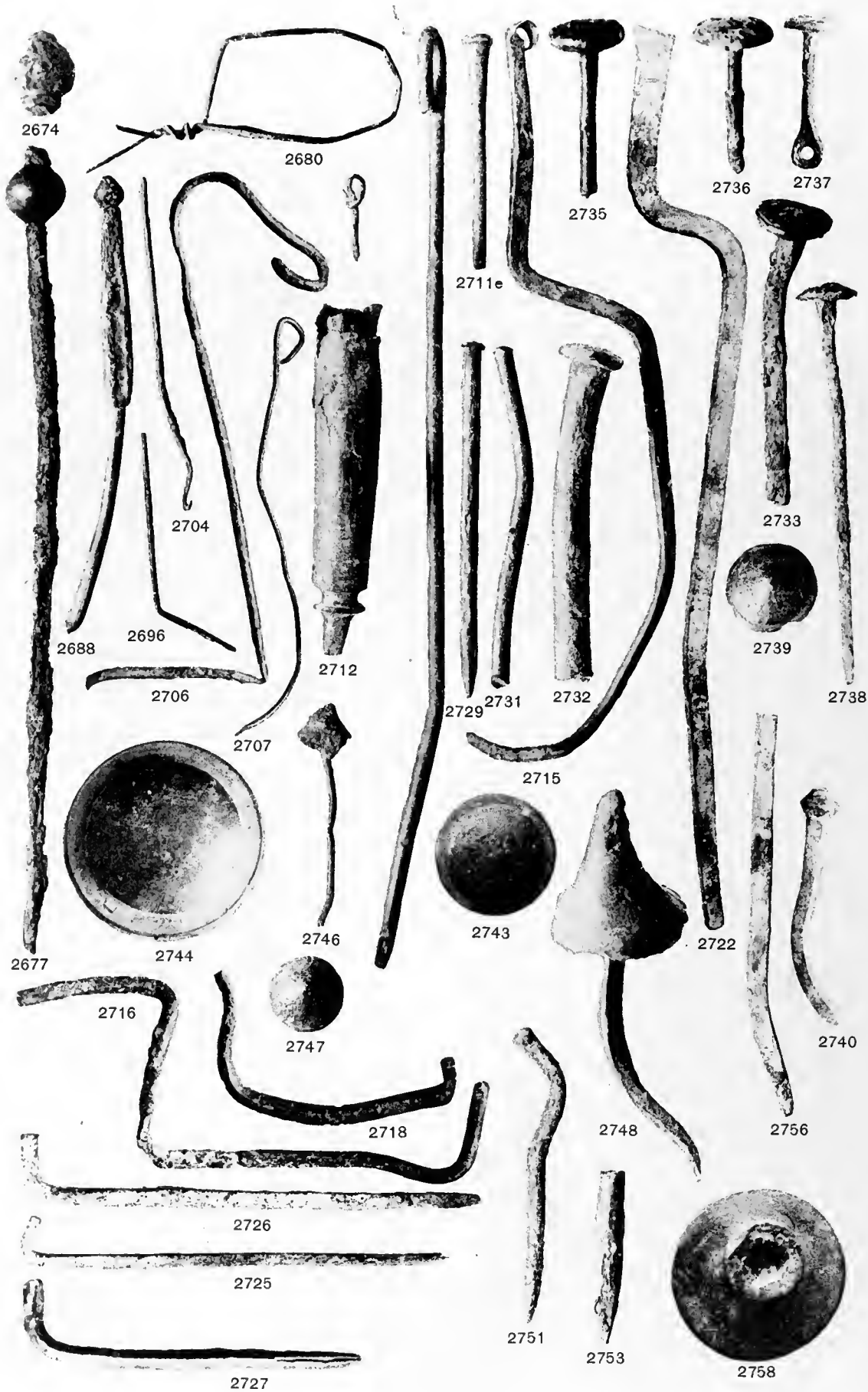






BRONZES.—SPITS

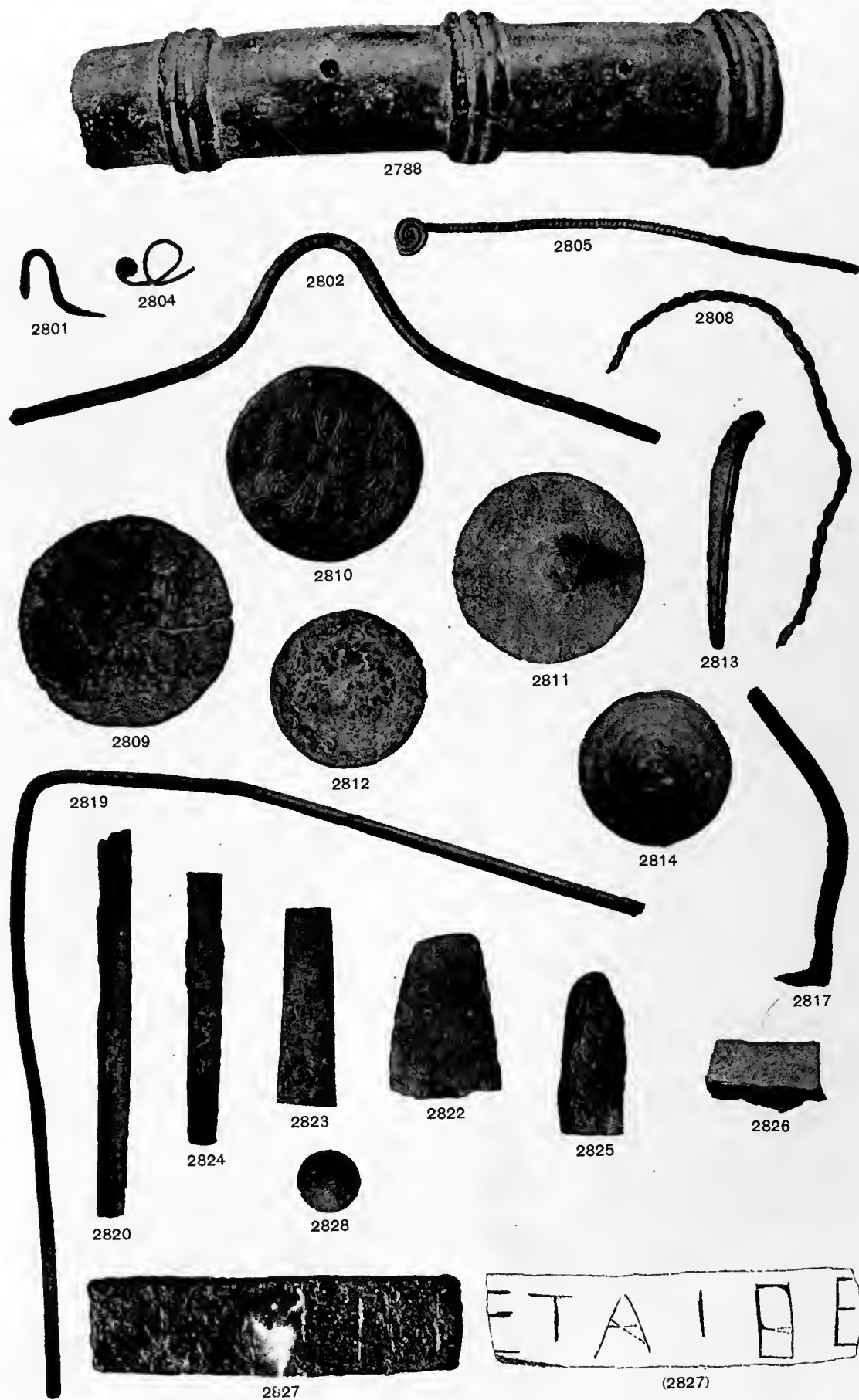




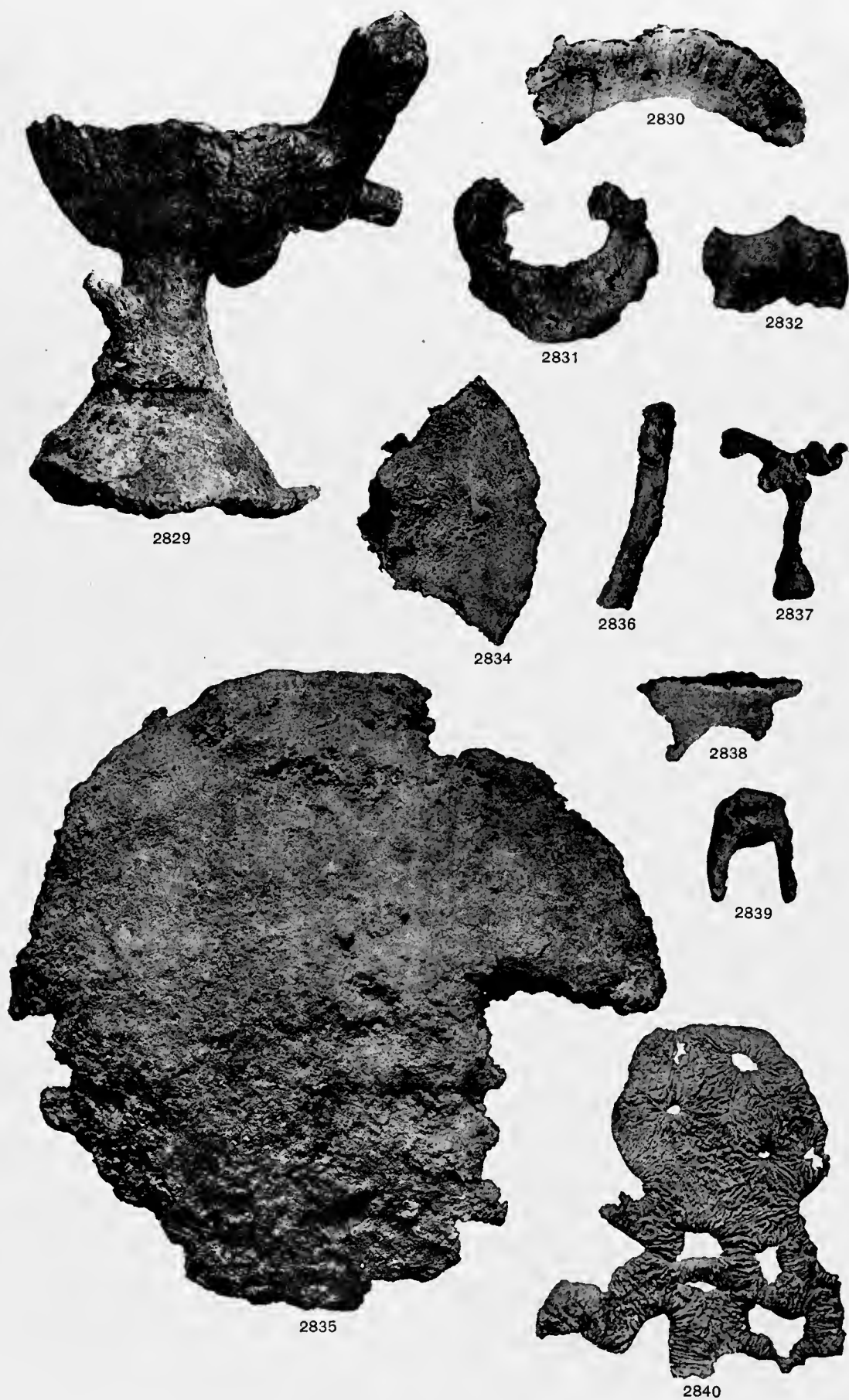
BRONZES.—SPITS, VARIOUS IMPLEMENTS AND UTENSILS

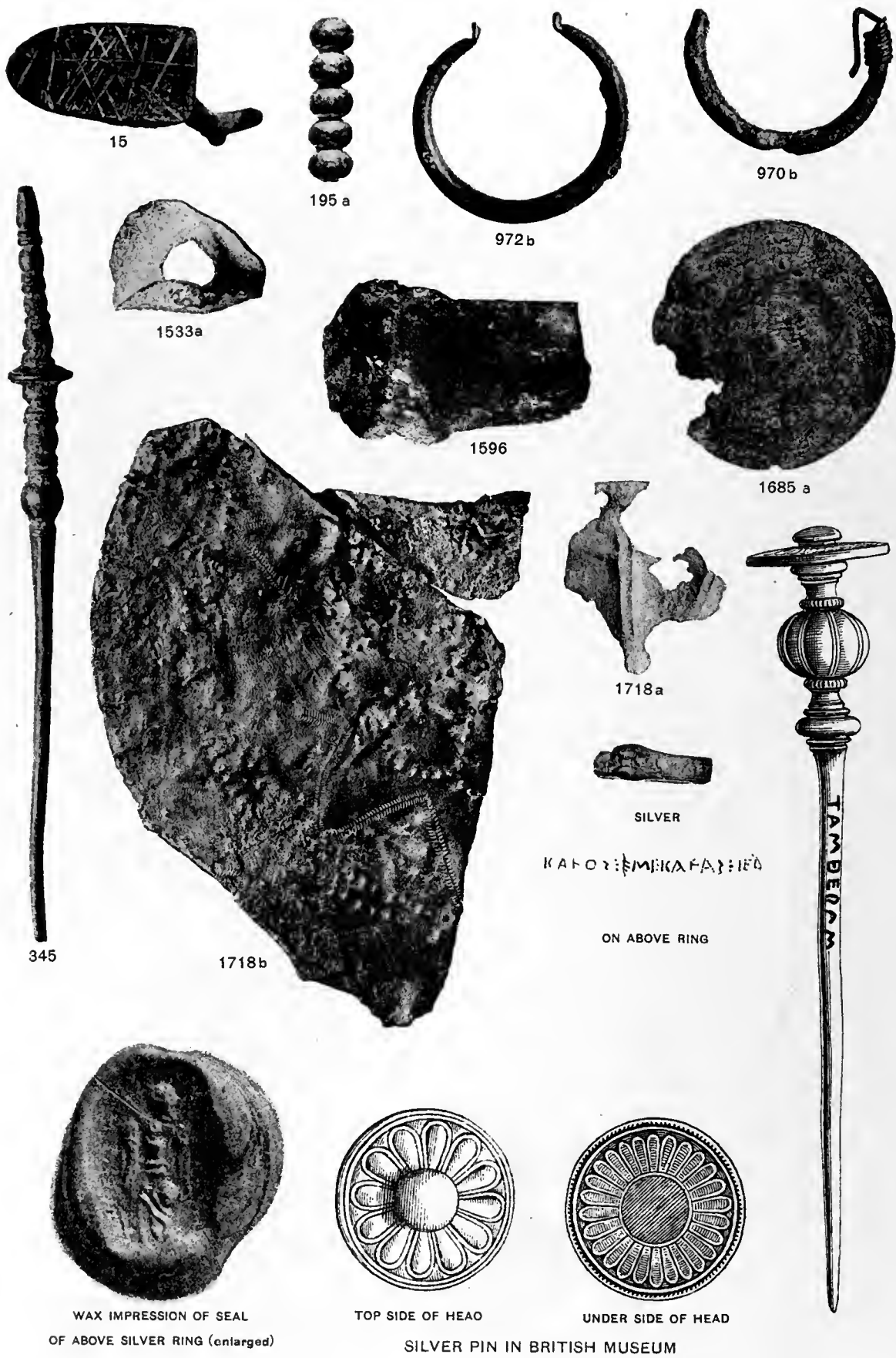


BRONZES.—VARIOUS UTENSILS AND CONSTRUCTIVE PIECES



BRONZES.—CONSTRUCTIVE AND DECORATIVE PIECES





BRONZES.—MISCELLANEOUS ADDENDA

ENGRAVED STONES, GEMS, AND IVORIES FROM THE
ARGIVE HERAEUM

ENGRAVED STONES, GEMS, AND IVORIES

By RICHARD NORTON

THE STONES AND GEMS

THE engraved stones found (though only in limited numbers) at the Heraeum might disappoint one who sought among them things of beauty. It is not that they are second-class works of their kind, but they belong to the beginnings of Greek art before the craftsmen had attained to the power which later enabled them to turn into shapes of beauty even the commonest article of daily use. But such disappointment is more than counterbalanced by the interest of another kind inherent in them, — a double interest, in fact, connected in part with the Heraeum and in part with the broader question of the early stages of Greek art.

Not one of these stones is much later than the seventh century B. C., and most of them are probably much earlier. This phenomenon of the absence of late work is the same in the other classes of objects found on the site, the very large majority of which belong to prehistoric and archaic times. But beside this fact there is another equally noteworthy, which is that a large proportion of the stones are of a style heretofore but little known. That is to say, they put before us a new local art, and it can be shown, I believe, that the most probable home of this art was the Heraeum,¹ by which name must be understood the town in the vicinity (which of the many there were we cannot with certainty say) that supplied the needs of the sanctuary.

That they are the product of one locality is suggested by the following facts. (All are, of course, intaglios.)

1. The material is the same in almost all. It is steatite.
2. There is little variety in the shapes, and one or two peculiar forms are frequently repeated. If the stones had been imported from many places, it is certain that they would vary much in form.
3. The range of subjects carved upon them is very limited.
4. The style of the carving is practically the same in all, and in most cases so rude that it would be hard to believe that the ancient Argives should have found it worth their while to import such work.

It is worth noting that there is scarcely a trace of the use of the drill, which was constantly employed by the Mycenaeans. On Nos. 17, 21, 33, and a few others, there seem to be traces of it, but the rule is for the design to be *cut*. This was perhaps induced by the softness of the stone; or the fact that, in the main, only soft stone was used may imply that the drill was not generally known.

The drawing of the human figures and of horses, the representation of birds and snakes (also found in great numbers on the vases from the Heraeum), remind one of 'geometric' vases. A few gems were found that distinctly belong to the 'geometric' style,

¹ I shall use the word Heraeum throughout this article, embracing all the neighborhood of the temple where lived not as meaning the sacred *temenos*, but in a broader sense, the people to whom the sanctuary belonged.

and those of what is I believe a new type may, perhaps, be the forerunner of the 'geometric.' It is noticeable that on the true 'geometric' stones occur none of the odd or inexplicable forms that we see on the new class.

It might be thought that the use of steatite, a mineral not found in Greece proper, was a proof that the stones were imported from some distant place; but when one considers that, as noted above, stones of this style have been found in considerable numbers only at the Heraeum, it seems more likely that it was merely the material and not the finished product that was imported. The carving was then done at the Heraeum. This statement is borne out by the fact that only a very insignificant amount of objects of unquestionable foreign make were found in the excavations, and also by the finding of one or two stones all ready shaped but without any design.

For the detailed study of the stones several methods of classification are possible: according to their material, shape, subject represented, or style. As there are a few stones absolutely different in style from the others while the material is the same, it is manifest that any attempt at classification according to material would be barren of result. Similar reasons make classification according to shape or subject undesirable, so that nothing is left but to classify them, so far as my own judgment goes, according to style. Others may consider that individual stones belong to other classes than those in which I have arranged them, but the separation of the classes in general will, I trust, find acceptance.

Before discussing the stones in detail a word must be said in regard to the use to which such objects were put. They are often spoken of as *seals*, but it seems improbable that their owners used them as such. Had they done so, it is incredible that no impressions of them should ever have been found. I refer of course only to Greece, and not to the countries in the farther east where seals were in common use. Furthermore, what imaginable way is there for their use as seals? Documents that could be sealed by any such stones as these were unknown in the days when they were made. They are too small and insignificant to have been used as marks of proprietorship of objects, — were this extravagant hypothesis to be brought forward, — and the fact that there is a very noticeable repetition of design disproves any such idea. That most of them are bored shows that they were meant for suspension, but were they seals, it is quite certain they would have been given some stiff and permanent setting. Gold rings like those found at Mycenae, or others of less valuable material, might (so far as usability is concerned) — except for the other reasons I have adduced — be called seals. Such rings, however, form but an infinitesimal division of the whole class of these objects. If they were not seals, what were they? Probably, in the majority of cases, amulets. The fact that they are bored suits this explanation. They may well have been worn in old times, as they are still to-day by the women in Crete, hung by a string round the neck. The style of subject carved upon them is well suited to amulets. Religious scenes, for instance, or the figures of strange beings are what one would expect on amulets. When we remember the close relation of animals to deities in ancient times, we see how stones which to our ignorant eyes present only the picture of a cow or lion may, in every likelihood, have conveyed a religious and sacred impression to the original owner. Others, too, suggest from their shape, or size, or carving, that they were merely beads, for it is not at all likely that all were used in the same way. Evans¹ in his epoch-marking works shows reasons to believe that he has found a form of writing on the earliest of these stones.

¹ *Cretan Pictographs and Prae-Phoenician Script and Further Discoveries of Cretan and Aegean Script.*

This, however, is no reason for thinking them to be other than amulets; though no one has been able to read the signs found by Evans, and they may possibly be abbreviated prayers or sacred and evil-averting signs.

There is one more question difficult of explanation, and that is how there came to be so many stones of this sort at a place like the Heraeum. I can only suggest the explanation that if these stones were amulets, it may well be that such powerful and sacred objects were made by the priests, — that they were issued from the temple somewhat as indulgences are given out by the Catholic Church. Or it is possible that perhaps after the death of the owner, or at some such solemn moment, they were dedicated in the temple. These are, of course, mere hypotheses.

CLASS I. PREHISTORIC OR PRIMITIVE.

Only eight stones of this sort were found (Nos. 1-8). The only carving on them consists of scratches, and they show no trace of true masterly cutting. Similar scratchings were found by Schliemann on whorls he dug up at Troy, and by other excavators. It is possible that these lines conveyed some meaning to the original owner of the object, but, at present, it is impossible to say what it was. Evans¹ suggests that certain somewhat similar carvings found by him stand for letters. None of the examples from the Heraeum suggest this or anything more than being the haphazard work of an untrained carver. They seem to be merely attempts to decorate the stones with more or less symmetrical patterns.

In shape they show some variety, and it is difficult to explain why the makers of these stones should have been satisfied with such rude carving of designs when they were able to model the forms so comparatively well.

PLATE CXXXVIII.

1. Circular; both sides slightly convex. Bored. Both sides scratched. Dark blue steatite. 1.5 cm. Perhaps a bead. Found during first year's work.

2. Button shape. Double bore-hole. Design: star. 2.8 cm. The stone is broken, but both parts were found. Found on stairs south of Second Temple.

3. Hemispherical. Bored. Scratches on flat surface. Red steatite. Diameter, 1.9 cm. Found back of West Building.

4. Circular; both sides convex. Bored. Both sides scratched. Dark green steatite. 1.8 cm. Found on southeast slope near bottom.

5. Spool shape. Ends concave. Cross lines and circle scratched on one end. Dark red steatite. Diameter, 1.7 cm. The form is, perhaps, an imitation of a fish's vertebra. Found back of South Building, at southwest corner of Second Temple terrace.

6. Flat; circular. Bored through centre. Light green steatite. 1.5 cm. No engraving; accidental scratches. Perhaps a bead. This is one of those which being formed but not decorated implies that the decoration was done at the Heraeum, as do the following. Found back of South Building near No. 5.

7. Circular and slightly spool-shaped. Not bored. Mottled green steatite. Diameter, 1.8 cm. Thickness, 0.8 cm. Like No. 6, this is apparently unfinished. Found east of chambers on Second Temple terrace.

8. Steatite pebble. 1.7 cm. long. Perhaps shows the sort of stone used by the engravers. Found during first year's work.

¹ *Cretan Pictographs and Prae-Phoenician Script*, fig. 16, and p. 16 (285).

CLASS II. NEW TYPE—'ARGIVE.'

The following are stones of a new, or at least very unusual type. There are thirty-three (Nos. 9-41) of them. They vary considerably in shape:—

1. Hemispherical; 11 (Nos. 9-19).
2. Button shape; 4 (Nos. 20-23).
3. Cylindrical; 1 (No. 24).
4. Shield shape; 1 (No. 25).
5. Rectangular; 8 (Nos. 26-33).
6. Lenticular and lozenge; 5 (Nos. 34-38).
7. Rectangular and oval with animal on top; 3 (Nos. 39-41).

The designs vary less than the shapes. They fall into three classes:—

1. Human.
2. Animal.
3. Geometric.

Perhaps a fourth class *unintelligible* ought to be added. The stones are often carved on all their various surfaces, whether curved or flat. Of the hemispherical group six have carving only on the flat surface, and the other five have their rounded back decorated with zigzags.

The button-shape group contains but one exception (No. 23) to the rule that the specimens of this shape have both of their flat surfaces carved.

The one cylindrical stone has one end carved and the other smooth.

The shield-shaped stone is carved only on the flat surface.

The rectangular group also shows one exception (No. 31) to the same rule.

Three of the five lozenge-shaped stones are carved on both sides; one on only one. One is doubtful (No. 36).

Of the animal group, No. 41 is the only example that has more than one surface adaptable to carving. In this case the animal is on the edge of the stone and both flat surfaces are carved.

On first sight one sees that these stones have little or nothing to do with the true Mycenaean stones with which it seems, from the proximity of the Heraeum to Mycenae, they might well have had some connection. The few Mycenaean stones that were found in the excavation are easily differentiated from those of the new class, and that so very few Mycenaean ones were found appears to be another bit of evidence to show how little the Heraeum depended on foreign trade for the satisfaction of its needs. The nature of the carving on the new stones, rude and awkward as it is, is quite unlike that of true Mycenaean work. Nor did the Mycenaean carvers show any special preference for steatite, while the subjects which they were fond of representing, such as lions, cows, fish flying, religious and hunting scenes, do not occur on the Heraeum stones. A few stones of the same character as those under discussion have been found in other parts of the Greek world, and they will be noted in connection with the special specimens to which they bear the closest resemblance. Further excavation will undoubtedly bring others to light, but for the present the Heraeum must be considered if not the original source of this work, at least a place where it was in considerable demand.

One curious point in regard to their discovery which may throw light not only on the stones themselves but also on the history of the Heraeum is that none were found on the Old Temple terrace, but all came from the neighborhood of the Fifth-century Temple and

the majority from the south slope, — a spot that seems to have been used for the laying aside of discarded objects. The enormous number of objects of all sorts found in this one place suggests that it may have been used as a sort of burying-ground for things that had, for some now unknown reason, become too sacred for such further mortal use as they had originally served. That there were such burying-grounds is, of course, proved by the discoveries on the Acropolis of Athens.

Hemispherical. All are bored.

9. Zigzag pattern in different directions over back. Design: man and horse, also irregular marks to fill space. Diameter, 2.4 cm. Dark red steatite. Found during first year's work.

10. Smooth back. Design: horse and decorative marks. Red steatite. 2 cm. Much rubbed. Found east of chambers on Second Temple terrace.

11. Zigzags on back (cf. No. 12). Design: horse and decorative marks. Red steatite. Diameter, 2.9 cm. Found at east end of Stoa below Cyclopean wall.

12. Zigzag on back. Design: horse, beyond which stands man with upraised arms, holding perhaps a sword over the horse's head. Slightly fractured. 3 cm. Found in Northwest Building.

13. Smooth back. Design: man holding something in raised hand; behind him marks similar to those Evans¹ takes to have to do with a house. Red steatite. Diameter, 1.8 cm. Found during first year's work.

14. Zigzags on back. Design: man seated, arms raised. Cf. No. 39. Red steatite with yellowish streaks. 2.2 cm. Found east of chambers on Second Temple terrace.

15. Half stone, broken along bore-hole. Smooth back. Design: man seated. Cf. No. 14. Dark blue steatite. 2 cm. Found above east end of Stoa below Cyclopean wall.

16. Smooth back. Design: man standing. There are other marks, but the gem is so broken they are inexplicable. Light blue steatite. 2.1 cm. Found back of West Building in the large deposit.

17. Elongated hemispherical. Smooth back. Design: two men, perhaps fighting. It suggests one of the gold rings from Mycenae. Dark red steatite. 3 cm. × 2.5 cm. Found above east end of Stoa below Cyclopean wall.

18. Not absolutely hemispherical. Three divided rows of arrowhead pattern on back. Design: circle divided into quarters by crossed lines. Each quarter has three 'arrow' markings one within the other. Blue steatite. 2 cm. Found during first year's work.

19. Elongated hemispherical. Smooth back. Design: double axe.² Blue steatite. Length, 2.7 cm. Found back of West Building in the large deposit.

Button shape. All are bored (except No. 23).

20. Much broken. Design, *Large side*: branches of trees³ surrounded by circle of cog-wheel pattern. *Small side*: snake (?) and lines that are distinct, but scarcely explicable. They do not resemble any of Evans's pictographic signs, and it is plain from the sureness of the cutting that they are not haphazard. They are also quite unlike the ordinary space-filling patterns. It is possible that they represent a horned animal lying down; the head to the left. Red steatite. Large side, 3.5 cm. × 3.75 cm. Small side, 2 cm. Found east of chambers on Second Temple terrace.

21. Design, *Large side*: two figures holding a bough upright between them; below the bough a crescent-shaped object. Snake surrounding left half of design. *Small side*: sunk circle with raised cross, the arms of the latter having incision down the middle. Green steatite. Large side, 2.5 cm. Found near the southeast corner of the Second Temple.

22. Design, *Large side*: two figures holding hands, and in free hand branches; between their feet a bird *upside down*, and below this a snake (?). Between the heads of the figures traces of another bird (?). Cog-wheel circle surrounds the group. *Small side*: scarcely explicable. Perhaps animal with branch above and below. Red steatite. Large side, 3.5 cm. Found on south

¹ *Cretan Pictographs*, p. 38 (307).


² Cf. Evans, *Cretan Pictographs*, p. 35 (304).

³ Cf. Evans, *Cretan Pictographs*, p. 43 (312), and *Further Discoveries*, fig. 16.

slope. A stone of about this size and carved with figures like those on the larger side of this one is in the Museum in Athens. It is uncatalogued, and I could not find whence it came.

23. Not engraved or bored. Pale green steatite. Largest diameter, 2.1 cm. Found at southeast corner of Second Temple terrace, outside peribolus wall.

Cylindrical.

24. Double branch pattern. One end with geometric design, thus:  At other end traces of three drill holes directed along the long axis; stone is broken and was never wholly drilled. Red steatite. Found during first year's work.

Shield shape.

25. Bored. Smooth back. Design: man upright, arms raised. Decorative markings. Incised line around whole. Dark red steatite. 2.8 cm. long. Found above east end of Stoa below Cyclopean wall.

Rectangular. All but No. 31 bored.



26. Stone broken through bore-hole, only half preserved. Design: on one side cattle superposed. (For somewhat similar representation of cattle, cf. Evans, *Cretan Pictographs*, fig. 11 a.) Behind cattle unintelligible curved lines. On other side cattle (?) facing, and between them snake (?). On the unbroken edge pattern (see cut). Found back of West Building in the large deposit.

27. Flat (brick shape). Both sides engraved; edges smooth. Design, one side: winged horses. Other side: distinct but unintelligible. Red steatite. 4 cm. x 3 cm. Found at southeast corner of Second Temple terrace, outside peribolus wall.

28. Brick shape. Both sides engraved; edges smooth. Design (same on both sides): animal and decorative marks, framed by straight lines. 1.6 cm. x 2 cm. x 1.1 cm. Found on surface of ground of the Old Temple terrace.

29. Broken along bore-hole, only half found. Both sides and the complete edge engraved. Design: each side divided into two compartments. When the stone was complete there were undoubtedly four such divisions. On one side are squares, one within the other, the smallest having its diagonals drawn. On the other side each division has merely lines drawn parallel to the diagonal, — those in one division from left to right, the other from right to left. On edge 'arrowhead' pattern. Red steatite. 4 cm. Found in the deposit at southwest corner of Second Temple terrace.

30. Broken; only part found. Both sides engraved; edges smooth. Design: on one side deeply cut, but unintelligible (but cf. Evans's sign for a house, *Cretan Pictographs*, p. 37 [308]). Green steatite. 5 cm. x 1 cm. (thick). Found near East Building. Another stone very similar to this one was shown me by Mr. Evans. He obtained it in Delos. It is now, I believe, in the Ashmolean Museum.

31. Bored, and bit of original bronze fastening still in hole. Both sides engraved. Design: on one side two men; one holds branch, other holds weapon (?). The former seems to be clad differently from the latter. Other side: four compartments, each filled with patterns of straight lines. Green steatite. 2.7 cm. x 2.3 cm. Found in deposit at southwest corner of Second Temple terrace.

32. Both sides engraved. Design, on one side: man fighting or hunting; the disk in front of him may be his shield. On other side: animal. Dark blue steatite. 1.7 cm. x 1.4 cm. Found at southeast corner of Second Temple terrace.



No. 33.

33. Only one side engraved. Design: crab or spider¹ and snake. Light green steatite; not bored. 1.9 cm. square. Place of discovery not known.

Lozenge. All are bored.

34. Both sides engraved and deeply cut all around edge, so that it resembles the 'spool' shape. Design, one side: flying bird. Other side: branch. Light green steatite. 2.1 cm. Place of discovery unknown.

¹ Cf. Evans, *Further Discoveries*, figs. 5, 6, and p. 339, pl. ii. 14, 15.

35. Engraved on one side. Design: two winged creatures face to face. Dark red steatite. 1.6 cm. Found at southeast corner of Second Temple terrace.

36. Broken through bore-hole; only half found. Both sides engraved. Design, on one side: bull's-head, full front. On other side: starfish pattern. 1.2 cm. thick. Diameter, circ. 4 cm. Red steatite. Found in deposit back of West Building.

37. Both sides apparently engraved, but are so worn as to be undecipherable. Red steatite (?). 2.4 cm. Found during first year's work.

38. Engraved on both sides. Design, on one side: flying bird. On other: winged animal. Dark red steatite. 1.5 cm. Found on south slope.

Nos. 39-41 have animals on top.

39. Bored. Cow (?) lying down. Design: man seated (cf. No. 14). Red steatite. Length, 1.3 cm. Found during first year's work.



No. 39.

40. Bored (below belly of animal). Monkey-like animal crouching. Design: animals, — very rude and much scattered over field, — perhaps also a scorpion. (Cf. Evans, *Further Discoveries*, fig. 31.) Light red mottled green steatite. Design: 2.5 cm. \times 3 cm. Height, 2.5 cm. Found east of the Northwest Building.

41. Animal much worn. Both sides and all three edges engraved. Design on both sides undecipherable. On the edges are these patterns:—



FRONT END.



BOTTOM.



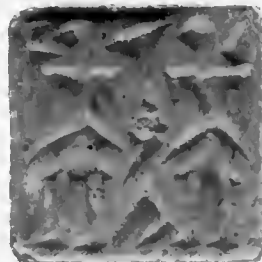
BACK END.

Found on south slope. Light blue steatite. 2.8 cm. \times 2.3 cm.

CLASS III. 'GEOMETRIC' (CIRC. TENTH CENTURY B. C.).

The next class of stones to consider are of a type which, though by no means common, is less strange than that of the preceding stones, and can be dated by external evidence. It is the 'geometric' type; a type that is plainly of the same epoch as the 'geometric' vases. These show a distinct advance over the earlier stones in being made of harder material, and in the carving being much stronger and more certain. They show none of the sketchy and tentative quality of the more primitive work. In shape and material, too, they vary from the earlier and from Mycenaean work. All are of a fine-grain white marble, and all are square. One peculiar shape, that of a low truncated pyramid, occurs. The backs have no *figure* design. The bore-hole runs *from back to front*, hence these could not be used as seals.

42. Bored from back to front. Shape: truncated pyramid. Back smooth. Design: two 'geometric' figures to right holding branches (?). Decorative marks. White marble. 3.4 cm. square. (In the Ashmolean Museum is a stone closely resembling this one; it was found in Melos in 1894.) The design is of two figures, and between them a branch. Found at east end of Second Temple terrace, near East Building.



No. 42.

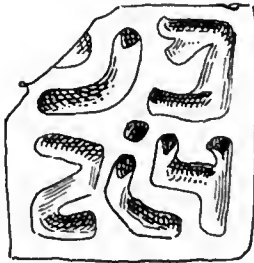
PLATE CXXXIX. (*upper part*).

43. Broken at corners. Bored from front to back. Shape: truncated pyramid. On *one* sloping side of back are cut circles with dots in their centres. Design: divided into four equal divisions. Only one, a human figure with space-filling markings, decipherable. Lower part of human figure in a second division. White marble. Circ. 4.5 cm. Found in West Building.

44. Fragment. Similar to No. 43. Square, brick shape, not pyramidal. Design in compartments, but destroyed. Human figure visible on left. White marble. Size originally about same as No. 43. Found at east end of Second Temple terrace, near East Building.

45. Bit of white marble similar to that used for Nos. **41-44**. Square, 4.2 cm. Edges and both sides carefully worked. Edges curve very slightly outward, which is not the case in Nos. **41-44**. Possibly an unfinished work. Found near No. **44**.

46. Bored from back to front. Back smooth, and edges only beveled very slightly. Design undecipherable. It seems to be merely decorative, and perhaps is a connecting link between the preceding and those that follow. Found above Stoa and below Cyclopean wall.



47-51. All bored from back to front. Backs flat and smooth. Design: decorative (?). White marble. Size: (No. **47**) 2 cm.; (No. **48**) 2 cm.; (No. **49**) 1.8 cm.; (No. **50**) 2.1 cm.; (No. **51**) 1.8 cm. It is noteworthy that the cutting of these differs from that of the preceding in being less angular, and the hollows are curved instead of being sunk to an edge. The designs of Nos. **47**, **48**, and **49** are exactly the same. Another stone of this same sort was bought by me in Athens in the spring of 1898. It is 3.3 cm. square and fractured at one corner (see adjacent cut).

No. **47** was found near East Building.

Nos. **48**, **49**, **50**, found in deposit back of West Building.

No. **51**, found at southeast corner of Second Temple terrace, within the peribolus wall.

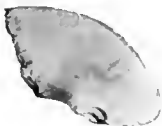
CLASS IV. MYCENAEAN.

The Mycenaean stones do not call for special comment. It is, however, noteworthy that so few stones of this class were found. Considering the proximity of Mycenae, one might well have expected them to be among the objects often found at the Heraeum.

52. Circular-lenticular. Bored. Design: animal to left and bough over its back. Blue steatite. 2 cm. Found in South Building.

53. Circular-lenticular. Bored. Design: horned animal (bull?) to right, head turned over back. Branch vertically in front of animal and below the beast decorative marks. Dark blue steatite. 1.7 cm. Found in South Building.

54. Circular, flat. Bored. Design: horned animal to right. Red steatite. 1.3 cm. Stone very much rubbed. Found at southeast corner of Second Temple terrace.



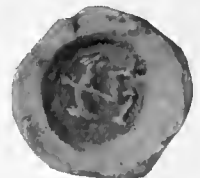
No. 55.

55. Fragment of large (probably 3-4 cm. diameter) circular-lenticular stone. Undoubtedly bored. Cornelian. Design: two cattle to left, the further one turning head backward. Best Mycenaean work. Place of discovery unknown.

56. Circular, flat. Bored. Design: two fore-quarters of horned animal joined; branch in front of one of the animals. Found in deposit at southwest corner of Second Temple terrace.

57. Circular. Back slightly convex. Bored. Design: anthropomorphic monster running. White calcspar. 1.3 cm. Found near West Building.

58. Lenticular. Bored. Design: griffin to right and below dolphin upside down to left. Hard white stone. 1.9 cm. long. Found near West Building.



No. 57.

CLASS V. NONDESCRIPT.



No. 59.


59. Cylinder. Bored. Design: eagle, snake (above its head star), and fore-part of lion (with something in front of head). Light green steatite, 1 cm. long. Found at southeast corner of Second Temple terrace.

60. Earth glazed with gray slip now much destroyed. Circular. Bored. Back smooth. Design: three rows of three crosses or dots divided by two pairs of parallel lines. Diameter, 1.3 cm. Found on south slope.

61. Earth glazed. Glaze destroyed. Circular. Bored. Incised line around edge. Design: griffin seated to right and snake (?). Rosette on back. Diameter, 1.7 cm. Cf. Ivory, No. **7**. Found on south slope.

THE IVORIES.

Among the smaller antiquities found at the Heraeum were a considerable number of objects of ivory representing many different purposes, most of which can be easily understood. Some are more difficult to comprehend, and are particularly interesting because of the similarity they bear to certain of the stones that have been described above.

The use of the following objects is uncertain. They are all of them bored, and this, taken into consideration with their peculiar shape (in section ) , has led me to wonder whether they might not have been used as covers of bottles or vases. The fact that they are carved on both sides does not preclude the possibility of such a use. One similar bit of worked ivory was found at Olympia (*Olympia*, 'Bronzen,' p. 188, 1194).

There are several points that are common to all five examples to be noted. All are bored. All are engraved on both sides. All are the same shape and nearly the same size. All have a more elaborate border on the smaller side, the larger side having merely a line.

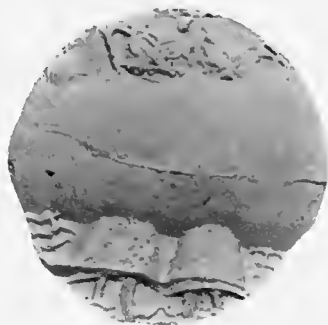
PLATE CXXXIX. (*lower part*).

1. Design, *Large side*: Winged griffin seated to left. Right paw raised. *Small side*: Lioness seated, head turned back, right paw raised. Between front legs star of dots. Greater diameter, 4.6 cm. Broken. Found at southwest corner of Second Temple.

2. Design, *Large side*: Winged man-headed griffin with ornament projecting from head, seated to left. Right paw raised; between paws flying double-headed bird to left. *Small side*: Lion in same position as lioness on No. 1, with three stars of dots and lines between front feet. Greater diameter, 4.5 cm. Found in black layer at west end of Second Temple.



No. 5 a.



No. 4.

3. Design, *Large side*: Lion seated to right. Right paw raised. Head turned back. Decorative dot in front of and behind head. *Small side*: Eagle flying to right. Greater diameter, 4.6 cm. Broken. Found during

first year's work, *probably* at west end of Second Temple.

4. Design, *Large side*: Two winged gorgons holding branches. *Small side*: Lion running to right. Head with crest turned back. Decorative stars. Greater diameter, 4.4 cm. The lion is less Oriental in type than those on the preceding ivories. The drawing of the paws suggests the early Attic vases. Found at southwest corner of Second Temple terrace.



No. 5 b.

5. Design, *Large side*: Double, winged, single-headed gorgon, seated with front paws on support shaped like an Ionic capital. The hair is rolled, as on the Tenean Apollo. *Small side*: Eagle flying to right. Elaborate detail. Six ornamental dots, one above bird, one below, one above and one below head, one above and one below root of tail. Greater diameter, 5.3 cm. Found at southeast corner of Second Temple terrace.

The following are apparently ornaments of various sorts.

6. Circular bit of ivory. One side convex, other flat and edge beveled. Small hole in centre of flat surface. No decoration. Diameter, 4.2 cm. Found on south slope.



7. Circular. Design: griffin. Back of ivory slightly convex, decorated with raised rosette having small hole in centre. Diameter, 2.7 cm. Cf. stone No. 61. Found at east end of Second Temple terrace, near East Building.

8. Similar to No. 7. No design. Hole bored through. Diameter, 3.6 cm. Found in burnt layer at west end of Second Temple.

9. Circular. Flat on both sides. Bored. Design: frog (?) with tail (?), seen from above. On back of ivory rosette. Diameter, 1.5 cm. Found in same place as No. 8.

10. Circular. Flat. Bored. Design: five circles with centres dotted (like a dice), the outer circles connected with the inner one by straight lines. On other side rosette. Diameter, 1.7 cm. Found during first year's work.

11. Button shape. Bored. Design, *Large side*: Bird flying to right within circle. *Small side*: Four-leafed rosette within 'cog-wheel' circle. Greater diameter, 1.8 cm. Found at south-east corner of Second Temple terrace, outside peribolus wall.

12. Circular. Flat. Bored, and little hole in centre of each side. Design: eagle with snake in beak flying to left, circumscribed by three circles. On other side rosette. Diameter, 2 cm. Found in burnt layer at west end of Second Temple.

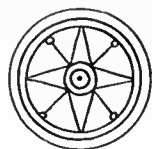
13. Same shape as Nos. 1-5. Bored. Design, *Large side*: Swan to left; behind head four-pointed star, circumscribed by two circles. *Small side*: Flying fish (?) to right, circumscribed by two circles. Greater diameter, 2 cm. Found in same place as No. 12.

14. Circular. Bored. Design: bird flying to right, circumscribed by two circles. Diameter, 1.4 cm. Found in same place as No. 12.

15. Circular. Bored (split through bore-hole and top not found). Design: bird flying to right. Diameter, 1.5 cm. Found during first year's work.

16. Button shape. Bored. Design: Androsphinx to right, circumscribed by circle on each side. Greater diameter, 2.7 cm. Found in West Building.

17. Circular. Flat. Bored. Design: bird flying to right, circumscribed by three circles. On other side Diameter, 2.3. Found in West Building.



18. Circular. Flat. Bored, — broken through bore-hole. Design: on one side, butterfly (?). On other side, rosette, so much rubbed that it is impossible to be sure of the design. Diameter, 2.5 cm.

19. Circular. Bored. Fragment of one side showing rosette. Diameter, 3.2 cm. Found in burnt layer at west end of Second Temple.

20. Circular. Flat and very thin. Small hole through centre. Design: six-petaled star. Back smooth. Diameter, 2.1 cm. Found near East Building on Second Temple terrace.

21. Circular. Bored. Too much worn to tell what the decoration was. Probably animal to left. Diameter, 1.6 cm. Found in West Building.

22. One half of spool-like object. Bored. Diameter of top, 2.6 cm. Found near East Building on Second Temple terrace.



No. 27.

23. Fragment, probably of No. 22.

24. Button shape. Unengraved. Place of discovery not known.

25. Oval slice with bit of bronze through centre. Perhaps ornament of a fibula. Found during first year's work.

26. Rectangular bead. Bored lengthwise. Arrowhead pattern on opposite sides. 2 cm. x .9 cm. x 5 cm. West Building.

PLATE CXL.

27. Cubical bead. Bored. Circles cut round bore-hole. Two ends and two sides engraved. On one end, head of griffin, on other bird. Both sides decorative. Length, 2.1 cm. Found on south slope.



No. 28.

28. Similar to last. On two sides flying bird. On two ends decorative pattern of wings (?) similar to last. Length, 3.6 cm. Found at west end of Second Temple.

29. Fragment. Shape similar to last. Design. Seated figure. Seated griffin. Length, 2.1 cm. Found *probably* in West Building.



No. 29.

30. Fragment of flat disk. Bored. Diameter, 2.7 cm. Place of discovery unknown.
 31. Fragment. Shaped like a large-necked flat aryballos. Both sides split off. Height, 2.1 cm. Found at west end of Second Temple.

ARTICLES OF APPAREL OR OF HOUSEHOLD USE.

32. Fibula, of which the bronze pin is oxidized away. Design: one thin strip of ivory cut to resemble three disks in a row. Each disk decorated with patterns of circles. Length, 6.6 cm. Found in the deposit at southwest corner.

33. Fragment of fibula similar to last. Bronze pin still attached. Central one of the three disks represented by only a section. The hollowed-out circles in centres of two end disks and on each side of central section probably originally inlaid. Length (of fragment), 4 cm. Found at southwest corner of Second Temple.

34. Fragment of end disk of fibula of same design as No. 32. Found at southwest corner of Second Temple.

35. Fragment of end disk of fibula of same design as No. 33. Found at southwest corner of Second Temple.

36. Fragment. Perhaps head of large pin (like a hairpin). At base two rams back to back. Length, 7 cm. Found east of Northwest Building.

37. Fragment. Perhaps of pin. Both sides decorated with incised circles. Length, 3.3 cm. Found at southeast corner of Second Temple.

38-43. Fragments of worked ivory, the uses of which cannot be made out. Lengths: (No. 38) 4.1 cm.; (No. 39) 2.7 cm.; (No. 40) 1.5 cm.; (No. 41) 1.1 cm.; (No. 42) 3.4 cm.; (No. 43) 3.6 cm. Nos. 42 and 43 are bored lengthwise, and in the hole is bronze wire. All found in deposit at southeast corner.

44-46, 47-58, 59. Ivory bodkins and heads of bodkins of simple undecorated type. Most were found in the deposit at the southeast corner, as were also the following items.

60. Head of bodkin of more elaborate type or pin.

61-65, 66, 67, 68. Ivory pins. Many were found in or near the West Building, or in the deposit at southwest corner.

69. Head of pin. Same shape as that of numerous bronze pins found at the Heraeum.

70-72. Fragments, perhaps of pins.

73-83. Fragments of bodkins or pins.

84. Small circular-bowled spoon.

85. Use uncertain, perhaps a stylus.

86. Use uncertain.

HUMAN OR ANIMAL FIGURES.

87. Animal lying down. Head and upper half of body destroyed. Base formed of thin sheet of ivory 3 cm. x 1.6 cm. Found in West Building.

88. Plaque, on which in low relief are the lower halves of two figures. On left a man moving to right towards what was probably meant for a xoanon. The latter from the drapery was evidently of a goddess. The tunic of the man and the chiton of the statue are very carefully ornamented with patterns of squares and diamonds. Style of the end of the sixth century B. C.

89. Figure like the Egyptian god Bes. Bored. Much broken.

MISCELLANEOUS OBJECTS.

About a dozen fragments of colored glass ("Phoenician") bottles.

Several glass and two or three stone beads.

Few fragments of obsidian.

Many small steatite whorls. Several were found in the deposit at the southeast corner.

Bit of shell of bird's egg — probably ostrich.



Two beads of glazed paste.

Terra-cotta disk with turtle in high relief. *Circ.* 2.5 cm.
Small stone arrowhead.

90. Leg of stand for vase (?). Decorated with zigzags. Red steatite. 7.3 cm. high, 3.5 cm. broad. Same style of work as the early engraved stones.

91. Bit of terra-cotta. Decorated on one side with zigzags. Perhaps leg of vase-stand. Length, 5.5 cm.

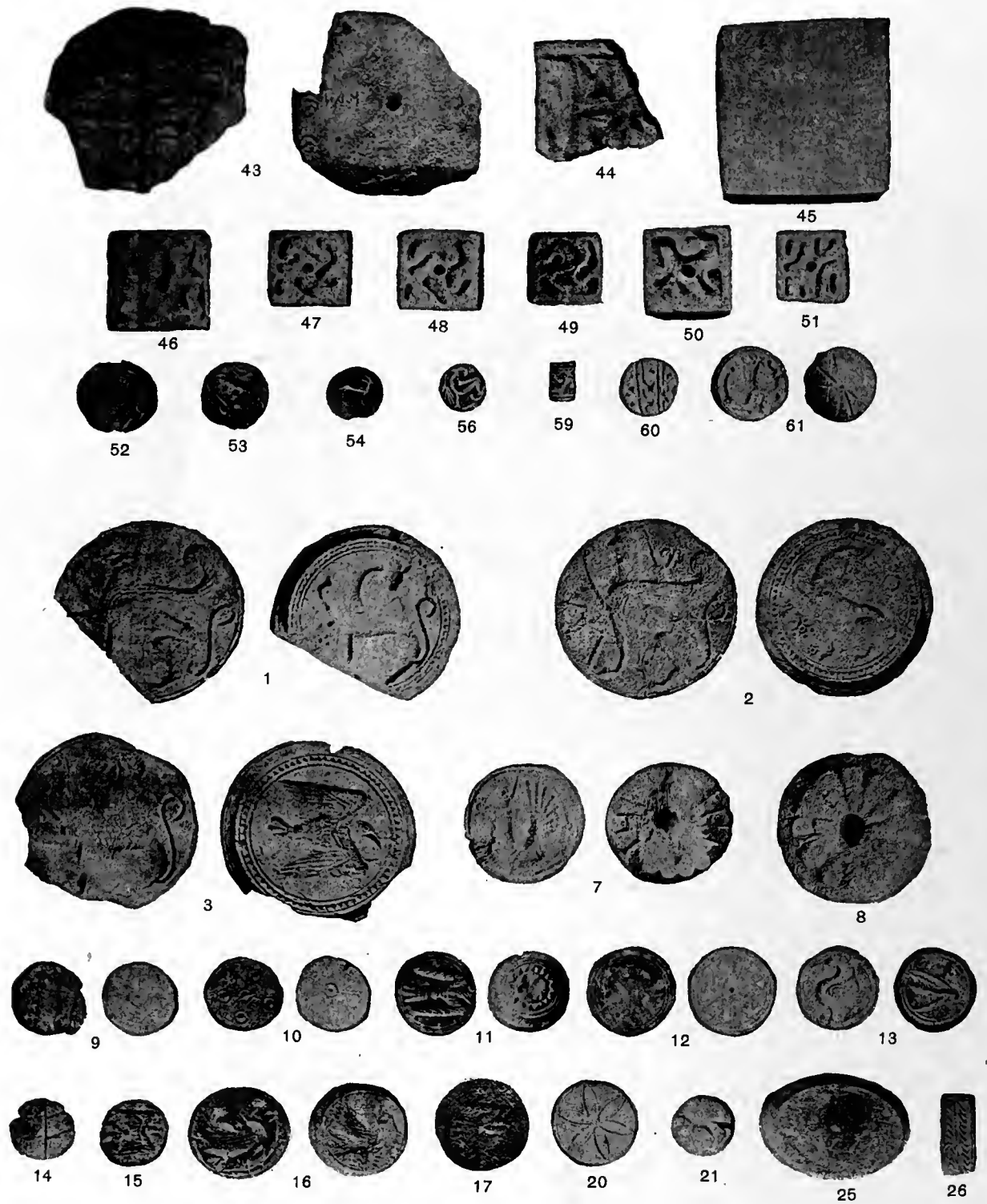
92. Bit of coral. Length, 5 cm.

93. Rectangular bit of shell conglomerate. Bored in centre of side. 2.7 cm. x 2.2 cm. x 1.1 cm. Found at southeast corner of Second Temple terrace.

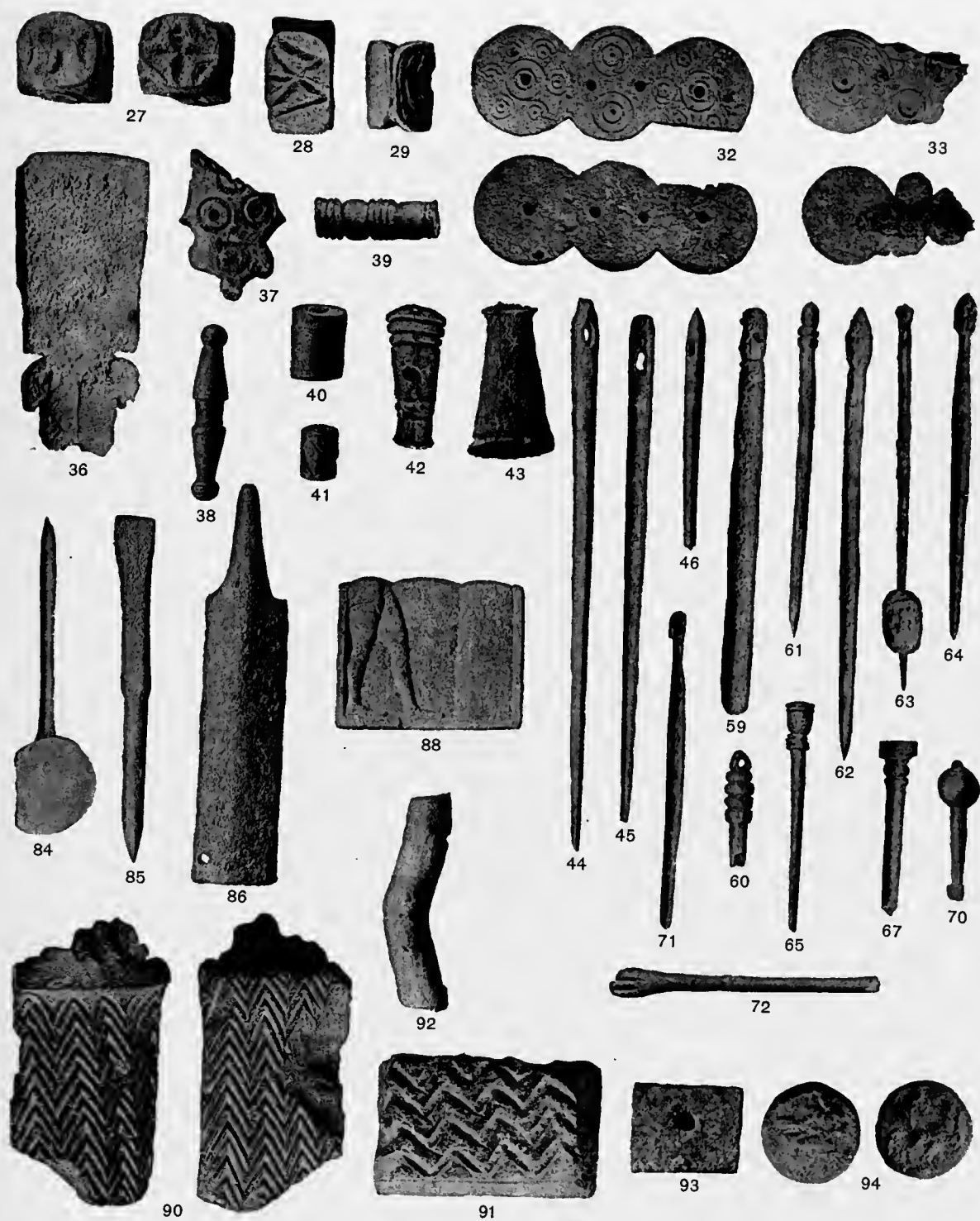
94. Disk of terra-cotta. Relief on both sides. Traces of glaze. Not bored. Design: figure driving a biga to right. On other side enthroned woman (?) to left holding an object, now not to be made out, in each hand. Found in the West Building. This figure may well be a representation of the statue of Hera at the Heraeum which is shown on coins in almost exactly this form. (Cf. Frazer, *Pausanias*, vol. III. p. 184, fig. 29.)



IVORIES.—ENGRAVED STONES: CLASSES I-II



ENGRAVED STONES: CLASSES III-V; IVORIES



COINS FROM THE ARGIVE HERAEUM

COINS FROM THE ARGIVE HERAEUM

BY HERBERT FLETCHER DECOU

THE coins described in the following list were found in the excavations on the site of the Argive Heraeum, 1892-1895.

The finding-places are given so far as they are known. When they are omitted, it is to be assumed that no record exists. Details of finding-place, depth, etc., are not indicated.

Of the 46 coins of known provenience, 21 come from the West Building, 9 from the South slope, and 2 from the same neighborhood, i. e. from back of the South Building. The remainder are from various parts of the excavation. No relations between the period of the coins and the building in which they were found can be established. It may, however, be noticed that the Byzantine coins are with one exception probably from the Lower Stoa (X).

The small proportion (about $\frac{1}{15}$) of the coins belonging to the period of free Greece is somewhat remarkable, as well as the fact that for the archaic period Corinth alone is represented. However, it scarcely needs to be pointed out that the circumstances do not in this case warrant any conclusions based on negative evidence. For the later period, in particular, it would be quite futile to attempt to explain the absence of any particular pieces, and nearly so to explain their presence. Nevertheless, though the coins tell us nothing about the later history of the Heraeum, or of its condition at the period they were minted, still in the obscurity which enshrouds the latter days of the sanctuary, even these slight records of the occasional presence of human beings on the site are not without a certain interest.

CATALOGUE

A. GREECE (AUTONOMOUS AND MUNICIPAL).

Thessaly. Larisa.

PLATE CXLI.

1. From West Building. Bronze. Size, 0.018 m. *Obv.* Female head (Larisa), three-quarter face, l. Loosely floating hair confined by fillet. *Rev.* Horseman, r., clad in petasus and chiton, and holding lance. Horse prancing. Above, l. AA. Incrustation beneath horse prevents letters, if any, from showing.

Phocis.

2. From South slope. Bronze. Size, 0.0215 m. *Obv.* Three bull's heads, full-face, forming tri-

angular pattern. *Rev.* Broad wreath within which T.

Corinthia. Corinth.

3. From South slope. Silver. Weight, 9 grammes. Size, 0.0245 m. *Obv.* Pegasus, bridled with curled wing, walking l. Beneath, ♀. *Rev.* Incuse square consisting of eight triangular compartments alternately raised and indented. Of the indentations one is flat, another repeated. Fabric rather flat.

4. Silver. Weight, 8.50 grammes. Size, 0.0245 m. *Obv.* Pegasus with curled wing trotting or flying l. Uncertain whether with bridle.

Beneath, ♀. *Rev.* Quadripartite incuse square resembling swastika. Fabric flat.

5. From South slope. Silver. Weight, 8.50 grammes. Size, 0.0225 m. *Obv.* Pegasus. Attitude uncertain. No trace of ♀. *Rev.* Quadripartite incuse square resembling swastika. Fabric flat. Hole for suspension, 0.0025 m. in diameter.

6. Bronze. Size, 0.0115 m. *Obv.* Pegasus flying, l. *Rev.* Trident. At r., in field, torch.

(Municipal.)

7. Bronze. Size, 0.0213 m. *Obv.* Head of Roman emperor, r. (resembles Augustus). Inscription illegible. *Rev.* Pegasus, flying, r. Uncertain whether with rider. At l., in field, COL (remainder illegible).

8. Bronze. Size, 0.0215 m. *Obv.* Head of Tiberius, l., laur. At l., ΓERE. At r., C. Remainder of inscription effaced. *Rev.* Front of hexastyle temple. Seems to be Doric with three steps. In upper l. field, LA. At r. of gable, RE. At r. of columns, IIVII. Beneath temple, JF for (COR).

Duovirate of L. Aferius Peregrinus and L. Furius Labeo.

9. Bronze. Size, 0.0205 m. *Obv.* Female bust (Tyche, according to *B. M. C. Corinth*, p. 71, No. 572), r., turreted. At l., ROMAL. At r., ETIMPER (for *Romae et imperio*). *Rev.* Tetrastyle temple on high base, seen from corner. In field, LKANAGRIPPAE IIVI. Beneath, COR.

L. Caninius Agrippa, Duovir.

10. Bronze. Size, 0.032 m. *Obv.* Head, beardless, and laureate, r. *Rev.* Horseman moving rapidly to r.

Much worn. Resembles *B. M. C. Corinth*, No. 580 (Domitian), but features of head of *obv.* are not quite the same. Attribution to Corinth doubtful.

11. Bronze. Size, 0.02 m. *Obv.* Head of Roman emperor, r. Resembles Domitian. *Rev.* Perhaps temple on Acrocorinthus as in *B. M. C. Corinth*, No. 541 (Claudius).

Patinated. Attribution uncertain.

12. Bronze. Size, 0.0245 m. *Obv.* Draped bust of youthful Marcus Aurelius, laureate, r. In l. field, MAVKΛAIVS. *Rev.* Zeus, with lower part of body draped, seated on throne, l. Holds Nike in r., and rests uplifted l. on sceptre. In l. field, CLI, in r. COR.

13. From West Building. Bronze. Size,

0.026 m. *Obv.* Head of Commodus, beardless and laureate, r. In l. field, COMMIO. In r. field, VAVC. *Rev.* Aphrodite standing, body in front view, face l., holding shield. Nude to groin. In l. field, CLI, in r., COR.

14. From East Building. Bronze. Size, 0.025 m. *Obv.* Head of Commodus, laureate, r. In r. field, NVS (Antoninus. Remainder of inscription illegible). *Rev.* Aphrodite upright, l., looking into shield which she holds in hands. Possible traces of Eros at her feet. In field at r., COR (remainder of inscription illegible).

15. Bronze. Size, 0.028 m. *Obv.* Head of Roman emperor, laureate, r. Features resemble those of Antoninus Pius rather than those of Commodus. At l., IMPCAESCOM. In r. field, MAVCCERM (perhaps two illegible letters after CERM). *Rev.* Wreath of pine within which IST M.

Sicyonia. Sicyon.

16. From Roman Building, season of 1895. Silver. Weight, 2.50 grammes. Size, 0.015 m. *Obv.* Chimaera, l. Letters, if any, invisible owing to incrustation. *Rev.* Dove flying, l.

Achaia. Patrae (Colonia Augusta Aroë Patrensis).

17. From N. W. of West Building. Bronze. Size, 0.024 m. *Obv.* Head of Commodus, beardless, and laureate, r. At l., o (remainder effaced). *Rev.* Three military standards. The central standard is surmounted by an eagle perched on a thunderbolt. Above, COL (remainder illegible).

Laconia (Roman emperors).

18. From West Building. Bronze. Size, 0.0235 m. *Obv.* Draped bust of L. Verus or M. Aurelius, laureate, r. In l. field, illegible inscription. *Rev.* Winged thunderbolt. In l. field, NINOMMA (the first part perhaps for [Anto]neinos). In r. field, uncertain letters, i. e. LΔA.

The attribution to Laconia rests on slight ground, as the winged thunderbolt is common also in Elis; cf. *B. M. C. Peloponnesus*, p. 215.

19. Bronze. Size, 0.023 m. *Obv.* Draped bust of youthful Commodus, r. In r. field, MOΔOS. Remainder of inscription illegible.

Rev. Wreath, within which ΔAKΕ
ΔAI
MONI

20. From South slope. Bronze. Size, 0.0205 m. *Obv.* Bearded male head, laureate, r. Inscription illegible. *Rev.* Draped female figure, standing, l. Holds in r. sistrum and in l. situla. In l. field AAA. In r. field $\vee\Omega\text{N}$.

Put here because of uncertain identification of head of obverse.

Argolis. Argos.

21. Found March 22, 1894, at west end of Stoa. Bronze. Size, 0.0155 m. *Obv.* Head of Hera, r., wearing stephanos. *Rev.* Quiver. At l. in field, $\begin{smallmatrix} \text{A} \\ \text{E} \\ \text{r} \end{smallmatrix}$, at r., $\begin{smallmatrix} \text{I} \\ \text{L} \end{smallmatrix}$.

(*Municipal.*)

22. From South slope. Bronze. Size, 0.025 m. *Obv.* Male bust, r. Seems to be beardless. Perhaps Hadrian. In field at l., AN . Remainder of inscription effaced. *Rev.* Nude male figure, bearded, standing, l. In r., long spear. L. rests against side. In l. field, ϵ (of $\text{'A}\rho\gamma\epsilon\acute{\iota}\omega\nu$). Remainder of inscription effaced.

23. From West Building. Bronze. Size, 0.0252 m. *Obv.* Beardless bust, r., uncertain whether laureate. Masculine features resembling those of M. Aurelius or of Commodus. In r. field ϵINO (Antoneinos). Remainder of inscription incrustated. *Rev.* Upright female figure, r., with r. raised, and l. extended over small figure to r. Group identified with Leto and Chloris, *B. M. C. Pelop.* p. 151, No. 168 (coin of Julia Domna).

24. From back of South Building. Bronze. Size, 0.025 m. *Obv.* Head and bust of Julia Domna, r. L. field incrustated. In r. field, $\text{TA}\Delta\text{OMNA}$. *Rev.* Similar to that of No. 23. In l. field, $\text{P}\Gamma\epsilon$, in r., IWN ($\text{'A}\rho\gamma\epsilon\acute{\iota}\omega\nu$).

25. From West Building. Bronze. Size, 0.0235 m. *Obv.* Beardless male head, l. Head bare. Features, especially the nose, like those of Caracalla. *Rev.* Draped female figure standing. Holds in either uplifted hand uncertain object, perhaps torch. In l. field, PL , in r., ϵIN .

ADDENDA TO COINS OF ARGOS.

The following minute pieces, all of which are of bronze, form a collection which was kept together among the various objects brought from the Heraeum to Athens, but there is no record of provenience either for the collection as a whole or for the individual pieces. It is therefore uncertain whether they were found in the same place, or thrown together later for convenience.

That the objects are coins seems altogether probable, and that they should be attributed to Argos is likely from the fact that they come from the Heraeum, and also from the presence of A on several specimens.

A rather indefinite criterion of date is afforded by the fact that all the alphas have the cross-bar broken. To judge from such material, however, as has been available, the A has a straight cross-bar at Argos so long as it stands for the name of the town, that is to 146 B. C., when the coinage ceases, to be resumed later under Hadrian. It may be, then, that, though the broken bar was regular in the monogram of the Achaean League, we have here a hitherto unknown local coinage permitted to Argos after the suppression of the league. That the pieces continued to be issued under the emperors seems likely from the style of some of the heads.

Note. — In the following list the coins with

symbols on the reverse precede those bearing letters. Within these classes the arrangement is by the style or form of head, but the minuteness and poor preservation of many of the pieces renders accuracy impossible.

26. Size, 0.01 m. *Obv.* Head of archaic style, r., beardless, and perhaps female. *Rev.* Raised ring in which AN .

27 [wrongly given on PLATE as **29**]. Size, 0.009 m. *Obv.* Head with upper part of shoulders, r. Head seems to be radiate and beardless. *Rev.* X (perhaps flower or tree).

28. Size, 0.0095 m. *Obv.* Head and shoulders, r. Top and back covered with bristling dress like lion's skin. Head appears to be male. *Rev.* Uncertain. From one side there seem to be two advancing figures, r., from the other some monogram or symbol similar to that on No. **38**.

29. Size, 0.0095 m. *Obv.* Object resembling head with draped bust, r. In r. field, possible traces of letters, among which ϵ . *Rev.* Wreath, in which X .

30. Size, 0.0074 m. *Obv.* Struck on one side. Only AL appears, which is probably part of drapery of shoulder. *Rev.* Perhaps δ in wreath.

31. Size, 0.009 m. *Obv.* Head, r. *Rev.* YY .

32. Size, 0.0085 m. *Obv.* Head, r. *Rev.* Uncertain symbol, resembling tree, i. e. X .

33. Size, 0.009 m. *Obv.* Uncertain head. *Rev.* √ √.

34. Size 0.0085 m. *Obv.* Uncertain, perhaps head. *Rev.* Worn. At side, ✕.

35. Size, 0.009 m. *Obv.* Uncertain. Possible traces of head. *Rev.* ♣.

36. Size, 0.0095 m. *Obv.* Possible traces of head, r. *Rev.* Perhaps symbol similar to that of No. 29.

37. Size, 0.0095 m. *Obv.* Possible trace of face, r. *Rev.* Uncertain symbol or letter, resembling Δ.

38. Size, 0.0094 m. *Obv.* Incrusted. *Rev.* λ √.

39. *Obv.* Uncertain. *Rev.* λ

40. *Obv.* Uncertain. *Rev.* Perhaps 18.

41. *Obv.* Uncertain. *Rev.* Perhaps ✕.

42. *Obv.* Uncertain. *Rev.* Similar to that of No. 41.

43. Size, 0.0105 m. *Obv.* Worn away. *Rev.* Uncertain. Perhaps ♣.

44. Size, 0.008 m. *Obv.* Uncertain. *Rev.* Flower or tree, cf. Nos. 27, 35.

45. Size, 0.009 m. *Obv.* Uncertain. *Rev.* Shrub or flower ♣.

46. *Obv.* Uncertain. *Rev.* Tree.

47. *Obv.* Uncertain. *Rev.* Perhaps tree.

48. *Obv.* Uncertain. *Rev.* Perhaps tree.

49. *Obv.* Uncertain. *Rev.* Perhaps tree and O.

50. Size, 0.009 m. *Obv.* Beardless head, r. *Rev.* Perhaps A.

51. Size, 0.0083 m. *Obv.* Head, wearing diadem or crown, and upper part of shoulders, r. Head apparently beardless. *Rev.* Large A. The circle under the bar of the alpha seems nearly certain.

52. Size, 0.0095 m. *Obv.* Head, uncertain whether bearded, radiate, with upper part of draped shoulders, r. *Rev.* A.

53. Size, 0.0085 m. *Obv.* Head, with draped bust, r. *Rev.* A.

54. Size, 0.008 m. *Obv.* Faint but probable traces of head and draped shoulders, r. *Rev.* A.

55. Size, 0.0092 m. *Obv.* Faint but probable traces of head, r. *Rev.* A. (Height, 0.005 m.)

56. Size, 0.0085 m. *Obv.* Incrusted. *Rev.* A.

57. Size, 0.0079. *Obv.* Worn away. *Rev.* N. For this N, cf. *B. M. C. Pelop.* p. 146, No. 124

NE

NE and p. 148, No. 153 MEI

A

58. Size, 0.0085 m. *Obv.* Uncertain. *Rev.* N.

59. Size, 0.009 m. *Obv.* Beardless head, r. *Rev.* N, i. e. letter and symbols combined.

60. Size, 0.008 m. *Obv.* Perhaps head. *Rev.* N.

61. Size, 0.0085 m. *Obv.* Uncertain. *Rev.* N.

62. Size, 0.0088 m. *Obv.* Uncertain. *Rev.* N.

63. Size, 0.008 m. *Obv.* Uncertain. *Rev.* N.

64. Size, 0.008 m. *Obv.* Uncertain. *Rev.* N (incrusted).

65. *Obv.* Uncertain. *Rev.* N (not very certain).

66. Half gone. Size, 0.0145 m. *Obv.* Upper part of head with diadem, r. *Rev.* Worn and incrusted.

67. Size, 0.0085. *Obv.* Beardless head and bust, r. Upper lip heavy, as though with mustache. Two locks of hair down back of neck. On breast of garment, spiral ornament. *Rev.* Uncertain.

68-102. Sizes 0.0065-0.0115. Oxidized and effaced.

103. Plain on both sides.

104. Plain on both sides. Perhaps not a coin.

Attribution uncertain.

105. From West Building. Bronze. Size, 0.0135 m. Much oxidized. Probably Greek.

106. Bronze. Size, 0.02 m. *Obv.* Head of Roman emperor, perhaps (Nero or Titus?), r. *Rev.* Effaced.

107. Found at E. end of Stoa, April 4, 1893. Bronze. Size, 0.03 m. *Obv.* Bearded head, r. Perhaps Antoninus Pius or Hadrian. Much worn. *Rev.* Draped female figure, standing l., with r. hand outstretched.

108. From West Building. Bronze. Size, 0.027 m. *Obv.* Youthful and probably male bust, r. Neck thin. *Rev.* Q. In field, slight but probable traces of letters.

PLATE CXLII.

109. Found in Northwest Building, 1894. Bronze. Size, 0.027 m. *Obv.* Head, r. *Rev.* Q.

110. From West Building. Bronze. Size, 0.028 m.

B. ROME (EMPIRE).

Antoninus Pius.

111. Bronze. Size, 0.0195 m. *Obv.* Head of Antoninus Pius, r. In l. field, ANTONINVS (remainder incruled). *Rev.* Standing draped figure. In l. field, PX. In r. f., COS IIII. Incruled.

Julia Domna (?)

112. From West Building. Bronze. Size, 0.018 m. *Obv.* Draped female bust, r. Head-dress of style which begins about time of Julia Domna (also Titiana and Maenia Scantilla). Inscription effaced. *Rev.* Draped female figure standing, l., with r. hand extended and with cornucopia in l. Inscription illegible except for E in r. field.

Pupienus.

113. Bronze. Size, 0.031 m. *Obv.* Draped bust of Pupienus, laureate, r. In field, IMPCAESPVIENMAXIMVSAVC. *Rev.* Draped female figure seated in chair, l., holding in outstretched r. olive branch, in l. transverse sceptre. Inscription beginning in l. field, PAX PVBLICA. Beneath, SC. Cf. Cohen, *Médailles Imp.* vol. V. p. 17, No. 24.

Gallienus.

114. Found on South slope, west end, 1894. Bronze. Size, 0.0205 m. *Obv.* Head of Gallienus, r., radiate. Military drapery. Beginning in l. field, CALLIENVSAVC. *Rev.* Draped female figure standing l., holding in r. hand olive branch, in l. transverse sceptre. In l. field, PAX. In r. field, A. Unless these characters are for AVC the coin is not included in Cohen, *op. cit.* The characters are clear.

Aurelian.

115. From South slope. Bronze. Size, 0.0223 m. *Obv.* Draped bust of Aurelian, r., radiate. Beginning in l. field, IMPAVRELIA NVSAVC. *Rev.* Two upright figures, l., man in toga, r., r. draped woman, clasp hands. Beginning in l. field, CONCORDIAMILITVM. Beneath, P*.

116. From West Building. Bronze. Size, 0.0205 m. *Obv.* Draped bust of Aurelian, r., radiate. Beginning in l. field, IMPCAVRELIA NVSAVC. *Rev.* Sol upright, radiate, with mantle falling over l. shoulder, faces l., with r. arm

raised, and l. hand extended and supporting perhaps a globe. In l. field a star. At his feet on either side, a captive. The l. captive has his hands bound behind his back. Beneath, S. Beginning in l. field, ORIENSAVC.

Probus.

117. Bronze. Size, 0.0235 m. Nearly half gone. *Obv.* Probus, with helmet, shield, and spear, l. Helmet radiate. Inscription, P PROB VSAUC. *Rev.* Horseman (Probus) galloping, l. R. hand raised, in l. spear or sceptre. In front under raised leg of horse, possible trace of figure. Beginning in l. field, ADVEN TVSAV (remainder lost).

118. Bronze. Size, 0.024 m. *Obv.* Bust of Probus, r., radiate with military drapery. Beginning in l. field, IMPCROBVSPFAVC. *Rev.* Draped female figure, upright, l., holding in either hand military standard. Beneath, III XXT. Beginning in l. field, FIDESM ILIT.

Carus.

119. From East Building. Bronze. Size, 0.0224 m. *Obv.* Bust of Carus, r., radiate. Military drapery. Beginning in l. field, PCMAVR CARVSPFAVC. *Rev.* Female figure draped, standing l., and pointing with staff at object (globe) lying at feet. In her l. hand, long upright sceptre. Beginning in l. field, PROVIDE N TIAVCC.

Constantius Chlorus.

120. Probably from Lower Stoa. Bronze. Size, 0.0215 m. *Obv.* Draped bust of Constantius Chlorus, r., radiate. In field, FL CON STANTIVS NOB CAES. *Rev.* Draped figure, upright, facing r., receiving figure of Victory from figure with mantle over shoulder (otherwise nude), facing l. In field, CONCORDIA MILITVM. Beneath, Victory, HA

Galerius.

121. Bronze. Size, 0.021 m. *Obv.* Draped bust of Galerius, r., radiate. Beginning in l. field, CALVALMAXIMIANVSNOCBAE. *Rev.* Draped male figure with cloak hanging over shoulder, r., joins hands with nude figure holding long sceptre, l. Their joined hands support small draped female figure. Beginning in l. field, CONCORDIAMILITVM. Beneath, HB.

122. From West Building. Bronze. Size, 0.019 m. *Obv.* Male head, r., radiate, with features resembling those of Galerius. Inscription partly illegible, XIMIANVSPLAVC . *Rev.* Two upright figures clasp hands. Their hands support small figure. In field, CONCORDIA . Beneath, HS .

Licinius.

123. Bronze. Size, 0.02 m. *Obv.* Bust of Licinius, r., laureate. Military drapery. Beginning in l. field, IMPLICIN . *Rev.* Partially draped male figure (genius), upright, l., holding some object in extended r., and in l. cornucopia. Inscription nearly effaced. In l. field, IIII I . In r. field, p . In inner r. field, F . In exergue, uncertain letters.

Constantius II.

124. Bronze. Size, 0.0173 m. *Obv.* Beardless draped bust of Constantius, r., with diadem. In l. field, DNCONSTAN ; in r. field, TIVS PFAVC . *Rev.* Two figures fighting, one partly down, the other thrusting spear into him from above. In l. field, slight traces of inscription (FEL TEMP), in r., REPARATIO . Beneath, QC .

125. Bronze. Size, 0.0162 m. *Obv.* Head of Constantius, r., with diadem. In r. field, TIVSPFA . Remainder of inscription illegible. *Rev.* Soldier rushing to l. upon prostrate enemy. In r. field, REPARATIO (remainder of inscription illegible). In exergue, uncertain traces of letters.

126. Found back of South Building in "grave of April 13, 1894." Bronze. Size, 0.015 m. *Obv.* Head, laureate or diademed, similar to that of Constantius. Inscription illegible except for AVC in r. field. *Rev.* Wreath, within which in exergue, four letters, of which the third is N . Cf. Cohen, *op. cit.* vol. VII. p. 492, No. 335.

Julian (called the Apostate).

127. Bronze. Size, 0.0165 m. *Obv.* Bust of Julian, r. Head bare and beardless. Begin-

ning in l. field, LIVL (remainder incrustated and illegible). *Rev.* Soldier upright, l., piercing with spear fallen enemy (horseman). On ground, a shield. In r. field, PARATIO (remainder illegible). In exergue, SMKA .

Gratian.

128. Bronze. Size, 0.017 m. *Obv.* Bust of Gratian, r., wearing diadem. Beginning in l. field, DNCRATIA . *Rev.* Draped helmeted female figure (Roma) seated front, looking l. Holds sceptre in r., and has l. raised. In l. field VIRTVSRO ; in r. field, MANORv . In exergue, TES .

Attribution uncertain.

129. From West Building. Bronze. Size, 0.021 m. *Obv.* Bust of emperor, r., radiate. Uncertain whether with beard. Heavy features; thick neck. Inscription, CD (remainder incrustated). *Rev.* Two male figures, the l. draped, the other nude except for cloak over shoulder, clasp hands, above which, figure. Figure at r. holds in l. long sceptre. In field, CONCORDIAMILITVM . Beneath hands above exergue, I . In exergue, ALE .

Cf. Nos. 121 f, but the inscription $\text{C(aesar) D(omitius)}$ would seem to point rather to Aurelian, under whom coins of a similar type (Jupiter presenting globe to emperor) were struck.

130. Found in Northwest Building, 1894. Bronze. Size, 0.019 m. *Obv.* Draped bust, r. *Rev.* Standing draped figure.

131. From West Building. Much damaged. Bronze. Size, 0.014 m. *Obv.* Head, r. Illegible inscription. *Rev.* In centre, figure. About edge, letters, all illegible.

132. Much incrustated. Bronze. Size, 0.018 m. *Obv.* Head, l. Inscription illegible excepting COS in r. field. Incrustated.

133. From South slope. Condition bad. Bronze. Size, 0.02 m. *Obv.* Head, r. *Rev.* Draped standing figure, l.

C. ROME (EASTERN EMPIRE).


Arcadius.

134. From West Building. Bronze. Size, 0.0143 m. *Obv.* Draped bust of Arcadius, r., wearing diadem. In field DNARCADIVS PFAVC . *Rev.* Draped male figure upright, moving to l.,

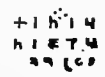
but with head turned to r., has r. hand raised, and with l. drags captive. In l. field, SA ; in r. field, PVBLICAE . In inner l. field, P . In exergue, SMKA .

John Zimisces (A. D. 969-976).


135. Probably from Lower Stoa. Perforated. Bronze. Size, 0.0345 m.

Obv.  *Rev.* Bust of Christ in halo and cross facing, and holding probably book of gospel. At side, IC-XC. In l. field, +EMMA.

136. Probably from Lower Stoa. Perforated and much worn. Bronze. Size, 0.0282 m.


Obv.  *Rev.* Bust of Christ with halo and cross facing, and probably holding book of gospel.

137. From East Building. Bronze. Size, 0.028 m.



Obv.  *Rev.* Bust of Christ with halo and diadem facing, and holding gospel. Struck twice, the second time to l. of first. To second

impression belong IC in l. field and +EMMA. To first impression belong in r. field XC and NOVN.

138. Probably from Lower Stoa. Perforated. Condition poor. Bronze. Size, 0.0255 m.

Obv.  *Rev.* Head and bust of Christ facing. Details effaced.

Attribution uncertain.

139. Probably from Lower Stoa. Perforated. Bronze. Size, 0.025 m. *Obv.* Indistinct male figure, perhaps laureate. Above head there seems to be a small +. *Rev.*  At l., two or three balls 

If on this coin the head is that of Christ, the words "*Obv.*" and "*Rev.*" are to exchange places.

D. VENICE.

140. Bronze. Size, 0.016 m. *Obv.* Head and mane of lion. About edge, VENETI · + · S · MΔ¹ *Rev.* ★ around which partly effaced inscription, ARBATICO · DV + ·

141. Found in West Building, April 25, 1893. Bronze. Size, 0.028 m. *Obv.* Head and mane of lion. About edge, * S · MARC · VEN · In exergue, * II *

Rev. ISOLE

E T Above and beneath, rosette.

ARMATA

Corfu, Cephalonia, Zante.

142. Bronze. Size, 0.0263 m. *Obv.* Lion's head with mane. About edge, * ARCVS · VE * In exergue, * I *

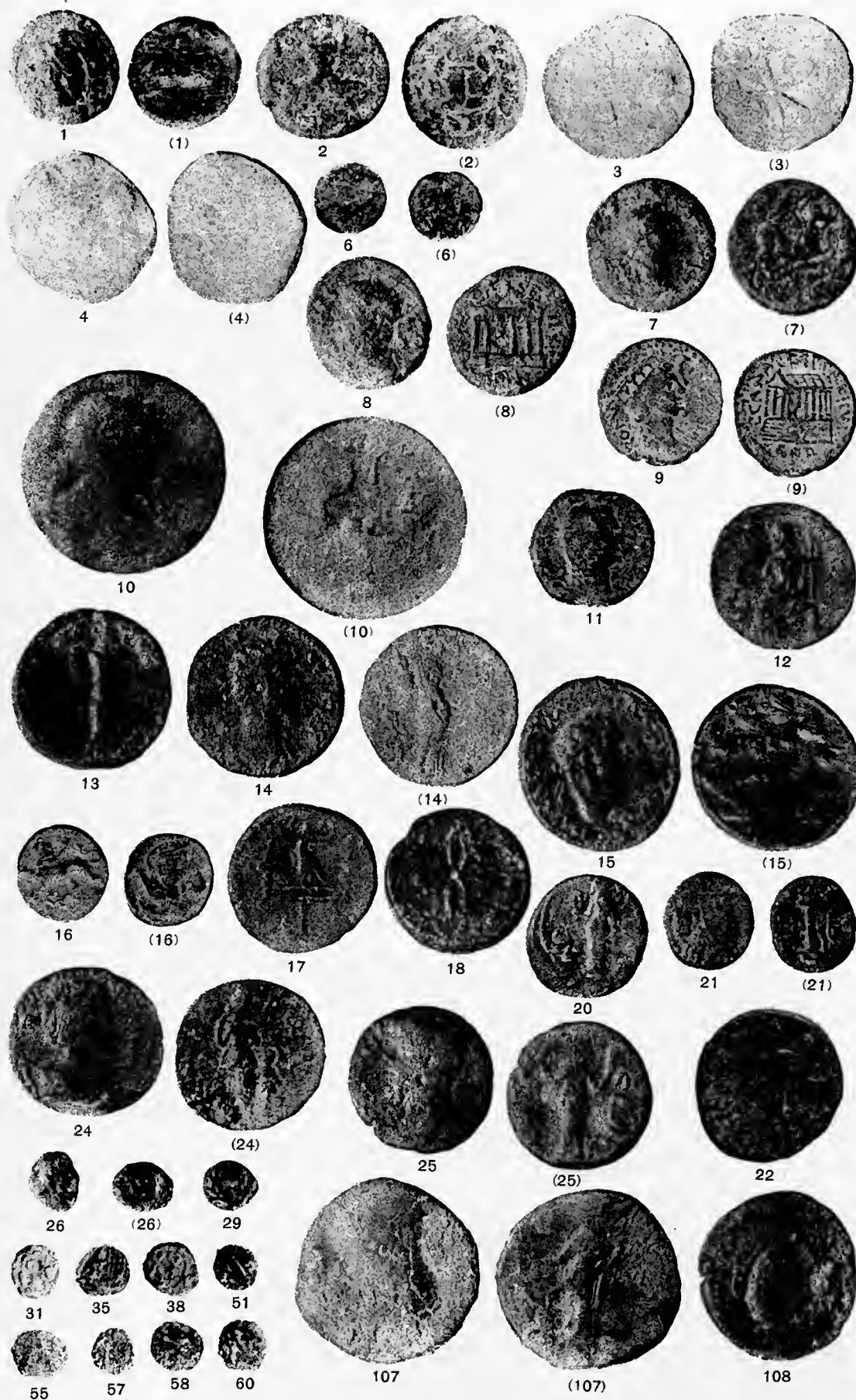
Rev. CORFV

CEFAL·

ZANTE

E. UNCERTAIN.

143-155. Numbers 143-148 from West Building. Numbers 143-145 found in 1894. Much worn or oxidized or both. Bronze. Sizes, 0.0135-0.0212 m.





THE EGYPTIAN, OR GRAECO-EGYPTIAN, OBJECTS FROM
THE ARGIVE HERAEUM

EGYPTIAN, OR GRAECO-EGYPTIAN, OBJECTS FROM THE ARGIVE HERAEUM ¹

BY ALBERT MORTON LYTHGOE

THE intercourse between Egypt and her neighbors on the north, which we should expect to trace, first to the nearer islands and then on to Greece itself, has been proved by recent evidence to have begun at least as early as the XVIth Egyptian dynasty. This earliest fixed date lies in the finding by Mr. Arthur Evans, in the palace of Cnossos, of the lid of an alabaster vase inscribed with the names of Khyan, one of a group of kings who have now been proved beyond all doubt to belong to the intermediate period between the XIIth and XVIIIth dynasties, and to be in all probability Hyksos.²

The evidence of an earlier intercourse than this between these two centres of civilization is yet problematical, in the absence of any earlier material to which an absolutely certain dating can be given. Types of pottery and other objects, similar to the earlier Aegean types though not identical with them, have been found by Flinders Petrie in the XIIth dynasty town site of Kahun, and in the royal tombs and old temple of the Ist dynasty at Abydos;³ but in these cases the types themselves lack identification as known Aegean types, and the evidence of their occurrence is not sufficiently conclusive to warrant ascribing them to the periods in apparent relation to which they were found. Until known material of this character comes to hand, which can be dated firmly by its occurrence, under undisturbed conditions, with fixed Egyptian types, we can hardly go beyond this earliest date which Crete has now given us.

On the other hand, the evidence of the intercourse between Greece and Egypt from that date on is conclusive. Beginning with the dated objects of Egyptian origin found in the Mycenaean sites of Greece and the islands, which prove that period in Greek civilization to have been contemporary, in part at least, with the XVIIIth dynasty, the connection appears to have been interrupted during the disturbed period of the XXIst to the XXVth dynasties, and then finally, with the influx of Greeks into Egypt in the XXVIth dynasty, trade and intercourse between the two countries becomes so constant that they both furnish, from that time on, abundant evidence of their common relation. It is of this evidence, of the period known as the Late New Empire, — the XXVIth and succeeding dynasties previous to the conquest by Alexander, — that the Egyptian objects from the Heraeum are a part, and objects of identically the same character have been found also at Eleusis,⁴ Aegina,⁵ and Camirus,⁶ and in Egypt itself at Naukratis.⁷ In fact, it is this Greek colony of Naukratis, which rose to great importance under the privileges granted it by Amasis (569–526 B. C.), and which, as the capital of the Egyptian Greeks,

¹ I am indebted to Mr. P. Kabbadias, Director-General of Antiquities, for permission to photograph the Egyptian objects from Aegina (now in the Museum at Athens), for comparison with these from the Heraeum (PLATE CXLIV.).

² Cf. Griffith, *Arch. Report*, 1901, p. 37.

³ The most recent discussion of this material by Pro-

fessor Petrie is in *Methods and Aims in Archaeology*, London, 1904.

⁴ Cf. Philios, 'Εφ. 'Αρχ., 1889, 171 ff.

⁵ Cf. Staës, 'Εφ. 'Αρχ., 1895, 193 ff. and 201–255.

⁶ Cf. Murray, *Cat. of Gems in Brit. Mus.* pp. 46–58.

⁷ Cf. *Naukratis*, parts I. and II., by W. M. Flinders Petrie, E. A. Gardner, and others.

was visited by Herodotus nearly a century later, that we now see to have been the original source of all this evidence, and to it the origin of the Egyptian objects, both from the Heraeum and the other sites mentioned, is to be traced.

If we start with the fact that at Naukratis itself examples were found of nearly all the types which have come from the Greek sites named, and that the examples of each type, though coming from places widely separated, are in many cases so closely identical that they might almost have been cast in the same moulds, then we must surely look to Naukratis as their common source. We find, for example, that the series of scarabs from the Heraeum (PLATE CXLIII. Nos. 1 to 39) have their counterparts in those from Naukratis¹ and also in those from Aegina (PLATE CXLIV. Nos. 1 to 6); similarly, the figures of Apollo from the Heraeum (PLATE CXLIII. 51 and CXLIV. 53) duplicated at Naukratis²; the figure of Bes (PLATE CXLIII. 47) also occurring at Aegina (PLATE CXLIV. 10); and the two whorls (PLATE CXLIV. 58 and 59) reproduced in one from Aegina (PLATE CXLIV. 8). With such a repetition in so limited a range of subjects, the source of them all cannot be a matter of doubt. There were found at Naukratis, moreover, not only most of the types which are duplicated in these from the Greek sites, but even the moulds in which certain types of the scarabs, for example, were cast. That the examples from the Greek sites were not locally made is obvious, and it is equally clear not only that they must all have been drawn from a common Egyptian source, but that, from the evidence, that source must be Naukratis, the largest and most important centre of trade between Greece and her colonists in the Delta.

There not only did the Greeks erect temples and statues to Greek divinities and carry on the manufacture of Greek pottery, figurines, and other objects of the same types and in the same manner as in Greece itself, but they became skilled in the arts of Egypt, and learned to reproduce Egyptian types of deities, Egyptian forms of decoration, and Egyptian hieroglyphics. In some cases they copied the hieroglyphics correctly, and in others their errors show clearly they had little knowledge of the language. They learned, moreover, to work in the materials in common use among the Egyptians, and we find in greatest number scarabs, vases, and figurines of glazed porcelain. On the scarabs they not only reproduced Egyptian inscriptions and designs, but they ornamented them with scenes reminiscent of their own Greek art, as the two running stags, and the stag pursued by a hound (PLATE CXLIII. 32 and 33), while in the case of the porcelain figures they both imitated well-known Egyptian subjects—such as the animals sacred to the gods, as the cat (PLATE CXLIII. 48) and the rabbit (PLATE CXLIV. 54), and the Egyptian divinities themselves, as Bes (PLATE CXLIII. 47)—and also introduced their own Apollo (PLATES CXLIII. 51 and CXLIV. 53), here represented as playing on the double pipe.³

In date this whole class of objects does not vary, but, without a single exception, is to be assigned to this period of the XXVIth and following dynasties of the Late New Empire, when Naukratis was the centre of Greek influence. None of this material from the Heraeum, or that from any other of the Greek sites mentioned, can be dated more closely to any particular dynasty or reign, from evidence contained in itself. The only objects from the Heraeum inscribed with a royal name are the three scarabs (PLATE CXLIII. 17, 18, and 19), the first of which, and possibly the last two also, is inscribed with the name of Thothmes III., of the XVIIIth dynasty. (See Catalogue below.) None

¹ Cf. *Naukratis*, I. pls. xxxvii. and xxxviii.

³ Cf. also *Naukratis*, I. § 17, and pl. ii.

² Cf. *Naukratis*, I. pl. ii. 7 and 13.

of these, however, date from the reign of that king, but rather from this period beginning with the XXVIth dynasty in which we have already included them. The well-known custom in this later period of copying and repeating upon scarabs the names and titles of the earlier kings is of such common occurrence that we find them even em-



FIG. 1. — SCARAB
FROM ELEUSIS.

It is inscribed with
name of Thothmes
III., but is of later
date.

ploying the names of the kings of the Old Empire, — a period when the inscribed scarab had not yet come into existence. The name of Thothmes III. seems, however, to occur much more frequently in these later copies than any other royal name, and in Egyptian cemeteries of this XXVIth dynasty as many as ten to twenty per cent. of the scarabs have sometimes been found to bear this cartouche. It is therefore not surprising that scarabs of this type should have been found not only here at the Heraeum, but at Canirus¹ and at Eleusis also (Fig. 1).

Apart from these Egyptian, or Graeco-Egyptian, objects from the Heraeum, which are thus to be grouped in a single class of obviously the same date and origin, there are in addition two glass scarabeoids (PLATE CXLIII. 40 and 41) which, while seemingly Egyptian in character, need special consideration. They are clearly Egyptian in form and partly in device, but in style and treatment they belong to a class of scarabs and scarabeoids which show Asiatic influence, and which have been identified in general as of Phoenician origin. The extent to which the Phoenicians borrowed Egyptian forms and imitated Egyptian designs both in metal working and in the engraving of gems is attested by the considerable number of objects known in which this fact can be easily identified.² Scarabs and scarabeoids of this class are generally found to bear a design either purely Egyptian or adopted from the Egyptian, but in rare cases they actually occur with an inscription in Phoenician characters.³

As to the origin of these two scarabeoids from the Heraeum, whether they were made by Phoenician colonists in the Delta or were brought there by Phoenician merchants and then exported to Greece, we have no evidence; but that they are of the same date and were brought into Greece at the same period as the other objects of Egyptian character is made certain by the occurrence at Eleusis of a similar glass scarabeoid (Fig. 2), found under exactly similar conditions, — with some fifteen scarabs of the same character as these from the Heraeum, one of which is inscribed with the name of Thothmes III. (Fig. 1, referred to above), but is of later date just as is No. 17 from the Heraeum. This double occurrence certainly disposes of all doubt in the matter of dating these scarabeoids, but apart from the fact that they were evidently brought into Greece at the same period as these other objects we are considering, they are clearly not of the same origin and not to be classed with them.

¹ Cf. Murray, *Cat. of Gems in Brit. Mus.* p. 13.

² Cf. Maspero, *Struggle of the Nations*, pp. 580 ff.

³ For description of such scarabs in the British Museum, cf. Budge, *The Mummy*, p. 250.

CATALOGUE

PLATE CXLIII. (scale 1: 1).

1. Inscribed *Amen Ra neb* = 'Amen Ra, the Lord.' Here, and also in Nos. **2**, **3**, and **4**, the maker has shown his unfamiliarity with the signs in having mistaken this sign of the ostrich-feather, the symbol of the goddess Ma'at, or Truth (cf. No. **13**, where it occurs properly) for the reedleaf, in the name of the god Amen (cf. No. **5**). For the feather, see Griffith, *Beni Hasan*, part III. pl. v. 72; and for the reedleaf, Griffith, *Hieroglyphs*, pl. vii. 106.

Blue-glazed frit.

2. Same inscription as No. **1**, and same error in the reedleaf sign. In addition, the *men* sign is very badly formed, and in other cases, as No. **4**, has become quite shapeless.

Blue-glazed frit.

3. Same inscription.

Blue-glazed frit.

4. Same inscription. Cf. No. **2**.

Blue-glazed frit.

5. Same inscription. Here the reedleaf is correctly represented.

Frit, the glaze completely gone.

6. Same inscription. Characters more carefully rendered than usual.

Blue-glazed frit.

7. Probably to be read *Amen Ra neb ma'at* = 'Amen Ra, Lord of Truth.' The middle signs are badly moulded and are fused together.

Blue-glazed frit.

8. Probably to be read as No. **7**. The last sign certainly seems to be the ostrich-feather.

Frit, with traces of blue glaze.

9. *Ankh ma'at* = 'Living is Truth.'

Blue-glazed frit.

10. *Ra neb ma'at* = 'Ra, Lord of Truth,' followed by the uraeus, the protector of the sun-god.

Frit, glaze completely gone.

11. Probably to be read as No. **10**. The third sign seems to be a misshapen ostrich-feather. Lastly, an unintelligible sign, possibly an attempt at an *ankh* sign.

Blue-glazed frit.

12. *Ra nefer neb ma'at* = 'The good Ra, Lord of Truth.'

Frit, no traces of glaze.

13. *Ra neb ma'at* = 'Ra, Lord of Truth.'

Blue-glazed frit.

14. *Ma'at nefer* = 'Truth is beautiful.' This

sign which we have read as *nefer* must be the lute-sign, as in No. **12**, but crudely represented. (Cf. Griffith, *Hieroglyphs*, pl. ix. 164.)

Blue-glazed frit.

15. Probably same inscription as No. **13**.

Frit, badly worn and glaze gone.

16. Same inscription as No. **13**.

Blue-glazed frit.

17. Inscribed with the prenomen of Thothmes III., *Men kheper Ra* = 'Established (i. e. enduring) is the being of Ra.' Outside the cartouche are the red crown of Lower Egypt (*dšrt*, cf. Griffith, *Hieroglyphs*, p. 56), and the mallet sign (*hn*, cf. Griffith, *op. cit.* pl. vii. 104), both symbols of royalty.

Of steatite, with traces of a deep yellow glaze. The whole style of the scarab, and especially the cutting of the back, would assign it to the XXVIth dynasty, or the period immediately following.

18. In upper register: *stni-b'iti* = 'King of Upper and Lower Egypt.' Below in the cartouche: At the top, the sun's disk, *Ra*. At the bottom, the beetle sign, *kheper*; and between the two an indistinct sign, which seems in all probability to be the *men*, and which would thus give us again the prenomen of Thothmes III., as in No. **17**. On either side of the cartouche is an uraeus, the protector of royalty.

Of frit, the glazing completely gone; and in style, of same period as No. **17**.

19. Too badly worn to be read with any degree of certainty. At lower right side is a cartouche, of which the upper sign is certainly the sun's disk, and the lower sign possibly the *kheper*. The intermediate sign cannot be distinguished, but it is possible that we may have again the name of Thothmes III.

Scaraboid, of soft paste or frit, bordered by a moulded band ornamented around the side with a twisted rope pattern. (Cf. Petrie, *Decorative Art*, fig. 169.)

20. Above, the barque of Ra, surmounted by the sun's disk. Beneath, the figure of a hawk, symbol of the sun-god.

Of a deep blue-colored frit; glaze gone.

21. Intended to read *Amen Ra*, but in *Amen* the sign of the eagle is incorrectly used, instead of that of the reedleaf.

Of a blue frit, like No. **20**, and glaze also gone.

22. The figure of a sphinx, recumbent, the incarnation of Ra, the sun-god, as the protector of mankind. (Cf. Wiedemann, *Religion*, p. 197.) Above, the sun's disk; and in front, the feather, symbol of divinity.

Blue-glazed frit.

23. Above, the barque of Ra, surmounted by the sun's disk. Below, the uraeus, protector of the god.

Frit, glaze gone.

24. At the right the crooked sceptre, which as a word-sign has the value *hḥ* = 'ruler, prince; ' then the uraeus, symbol of royalty; followed by a third sign, the form and significance of which cannot be determined.

Blue-glazed frit.

25. Human-headed sphinx, standing, crowned with the white crown of Upper Egypt, with uraeus at front, and represented bearded. Same significance as in No. 22, — the incarnation of Ra, the sun-god. Above, the sun's disk. Before the sphinx, the crooked sceptre as in No. 24. (Cf. Griffith, *Hieroglyphs*, fig. 39.)

Blue-glazed frit.

26. Above, the sun's disk. Below, seemingly a squatting figure, as of the god himself (Ra).

Frit, with traces of a yellow glaze.

27. Standing figure, representing some god or royal personage. In the right hand a uraeus, in the left a sceptre, and evidently crowned with the white crown of Upper Egypt.

Frit, all traces of glazing gone.

28. Representation of some animal of long and slender body, and with long snout, — perhaps the jackal. (Cf. Davies, *Mastaba of Ptahhetep*, part I. fig. 63.)

Frit, glaze gone.

29. Amen Ra before a seated god or king. Amen Ra is represented as hawk-headed, crowned with the crown of Upper Egypt and the double plume, and in his left hand the *was* sceptre. (Cf. Griffith, *Hieroglyphs*, p. 59.) The seated figure is represented with the same sceptre, and is bearded.

Blue-glazed frit.

30. The *ankh* sign, or sign of life, with two uraei intertwined, — a design which occurs in Egypt as early as the VIth dynasty. (Cf. Petrie, *Methods and Aims in Archaeology*, fig. 62.)

Frit, glaze gone.

31. Representation of the griffin, one of the fantastic beasts which inhabited the desert, in

the belief of the Egyptians. (Cf. Maspero, *Dawn of Civilization*, p. 83.)

Frit, glaze gone.

32. Two running ibexes. (For the Egyptian ibex, cf. Newberry, *Beni Hasan*, part I. pl. xxviii.)

Pottery, pale blue-gray color, surface glaze gone.

33. Ibex pursued by a hound. (For similar representations in Egyptian art, cf. Newberry, *Beni Hasan*, part I. pl. xxx., and Davies, *Mastaba of Ptahhetep*, part I. pls. xxii. and xxv.)

Blue-glazed pottery.

34. Duck rising from a marsh or swamp. (For the duck, cf. Griffith, *Beni Hasan*, part III. pl. ii. figs. 1 and 8.) Behind is a tall-stemmed plant tipped with a clump of leaves, and before the duck is the so-called sedge, a plant identified with the South, or Upper Egypt. (Cf. Borchardt, *Pflanzenäule*, Abb. 35.) The scarab is broken at this end and another character cannot be determined.

Porcelain, of a dark brownish color, as if subjected at some later period to the action of fire. Glaze gone.

35. In upper register a recumbent sphinx, with tail raised. Over the animal the sun's disk. (Cf. No. 22.) Below, a hawk, symbol of the sun-god, is represented in a papyrus-marsh, with a clump of three papyrus stems behind. (Cf. Griffith, *Beni Hasan*, part III. pl. iii. fig. 16.)

Blue-glazed frit.

36. Representation of some animal.

Frit, badly worn, glaze gone.

37. So worn that the design is undeterminable.

Frit, glaze gone.

38. The winged uraeus protecting the sun's disk.

Frit, glaze gone.

39. Two winged uraei, protecting a seated divinity, who appears to have the sun's disk on his head and to be holding a sceptre.

Frit, traces of greenish blue glaze.

40. Above, the hawk-headed Ra, winged, and crowned with the double crown. Below, a scarab with wings outspread, — an emblem of the sun-god.

Scarabeoid, of blue glass.

Although the subject of this design is Egyptian, yet it is non-Egyptian in style and character, and is certainly of a class of Phoenician scarabs of which a considerable number are

known. (Cf. Murray, *Cat. of Gems in Brit. Mus.* pl. B, 146.)

41. Apparently, a conventionalized design, of which the centre is a scarabaeus with outspread wings.



FIG. 2. — SCARABEID OF ASIATIC, AND PROBABLY PHOENICIAN, ORIGIN.

Found at Eleusis.

Scarabaeoid, of yellow glass.

Of same style and undoubtedly of same origin as **40**; cf. Fig. 2, a similar scarabaeoid of greenish blue glass found at Eleusis (Athens Mus. 10960).

42. Papyrus-capital amulet. As a hieroglyphic word-sign the papyrus stem has the value *wad*=green, flourishing (cf. Borchardt, *Pflanzensäule*, p. 26, and Griffith, *Hieroglyphs*, fig. 125).

Here, as an amulet, with its suggestion of use as a column, it seems to have borne the idea of solidity, strength, and hence well-being.

Blue-glazed porcelain. Pierced, at the base of the die, for suspension.

43. Pendant or amulet, of unknown meaning.

Of crystal. Similar pendants occur in Egypt at nearly every period, from the XIIth dynasty on.

44. Like No. **43**, but of blue-glazed porcelain, and pierced perpendicularly in the base by a small square hole, as if for use as a knob.

45. Head of a male figure, of blue-glazed porcelain. The modeling of the head, with its thick, massive wig, is characteristically Egyptian.

46. Head of a male figure, evidently of the "Apollo" type. See below, No. **51**.

Blue-glazed porcelain.

47. Figure of the god Bes. Represented in a characteristic attitude, as a bearded dwarf, with long ears, bowed legs, and arms resting on thighs. He is sometimes represented also with protruding tongue, and dressed in the skin of an animal, with tail hanging down at the back. (Cf. Wiedemann, *Religion*, pp. 159 ff.)

This figure originally had a crown of feathers, which has been broken off.

Of blue-glazed porcelain.

There is nothing to prove the generally expressed idea that this god was one of foreign origin brought into Egypt at a later period, perhaps at the beginning of the New Empire. Amulets in the form of this god are now known as early as the Vth or VIth dynasty, and his worship certainly began as early as that. In the

period of the Late New Empire (to which our figure belongs) these representations of him became extremely common, and they have been found at nearly all the Greek sites to which Egyptian influence spread. (Cf. also the one from Aegina, PLATE CXLIV. 10.)

48. Seated figure of a cat.

White-glazed porcelain.

The cat figures in Egyptian art as the sacred animal of the goddess Bast, the centre of whose cult was at Bubastis, in the Delta. Innumerable representations of this animal, in bronze as well as in porcelain, have been found there, and from its proximity to Naukratis it is easy to account for the manner in which these figures have found their way to Greek sites. A similar figure to this was found at Aegina (cf. PLATE CXLIV. 9).

49. Figure of Ptah, in the form Ptah-Seker-Osiris, a composite deity, who figures principally as a god of the dead. As such he is represented as here, as a squatty figure crowned with feathers, and with bowed legs and hands on his hips.

Blue-glazed porcelain.

50. Figure of a deity (?), bearded and with the heavy wig falling down before the shoulders. Originally crowned with some attribute, now missing.

Blue-glazed porcelain.

51. Figure of the "Apollo" type, representing the god as playing on the double pipe.

Blue-glazed porcelain.

This motive, of playing on the double pipe, occurs in Egyptian art in mural paintings of the XVIIIth dynasty and onwards, in scenes of feasting and dancing (cf. Erman, *Life in Ancient Egypt*, p. 250), but is unknown in the case of faïence or bronze figures. Figures of this type are solely the product of Graeco-Egyptian art, and were first identified at Naukratis (see above). Another example was also found here at the Heraeum. (PLATE CXLIV. 53.)

52. Figure similar in type to No. **51**, which may possibly represent one of the other types of Apollo identified at Naukratis. (Cf. *Naukratis*, I. § 17.)

Blue-glazed porcelain.

The figure is represented with the heavy wig, broadening out over the ears and falling behind them on the shoulders. In feature this type has nothing in common with Egyptian art of the period, the long face narrowing down at the chin and the eyes protruding from their sockets being

strongly characteristic, rather, of contemporary Greek art. These same characteristics appear also in Nos. 46 and 51, and they are all undoubtedly due to one and the same influence.

PLATE CXLIV. (scale 5:6 [left], 1:1 [right]).

53. Same motive as in No. 51. Apollo playing on the double pipe.

Blue-glazed porcelain.

54. Figure of a hare, recumbent.

Blue-glazed porcelain.

As a hieroglyphic word-sign, the hare has the value *wen* = 'to be.' It is the common desert hare of Egypt, and is generally represented, as here, with greatly exaggerated ears (cf. Griffith, *Hieroglyphs*, pl. i. 2). This animal was sacred to Osiris Wen-nefer, and votive figures and amulets in this form are very common.

55. Fragment: form undeterminable.

Blue-glazed porcelain.

56. Fragment of a porcelain vase, blue-glazed.

The ornamentation consists of a double band moulded in relief; the upper, of perpendicular parallel lines between two horizontal ones, and the lower, of a series of rectangles, each with a circle at the centre, separated by two perpendicular lines.

Both of these forms are well-known Egyptian ones, and occur regularly as border patterns in wall-decoration and the like. (Cf. Petrie, *Decorative Art*, figs. 186 and 194.)

57. Fragment of a vase, with decoration similar to the upper band on No. 56.

Blue-glazed porcelain.

58. Porcelain whorl, blue-glazed. In shape, like two truncated cones base to base, and with

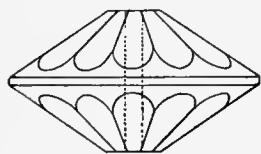


FIG. 3. — PORCELAIN WHORL.

a hole through centre perpendicularly. (Fig. 3.) Decoration, on both sides, of a rosette. This form of ornament, the rosette, is one of the commonest in Egyptian art at all periods, but it

is often so conventionalized that it is difficult to determine its derivation. In this form, with broad, round-ended petals, it has been identified by Petrie (*Decorative Art*, pp. 56-58) as the daisy, and by Borchardt (*Pflanzenäule*, p. 4, note 1) as the *chrysanthemum coronarium*. Among the objects from Aegina, however, is the cover of a kohl pot in blue-glazed porcelain (PLATE CXLIV. 7), which, with its centre in relief, certainly represents the daisy; and it

would seem, from the more common occurrence of the daisy, that that would more likely have been taken as a motive.

It also occurs with petals with pointed ends, as, for example, on another whorl from the Heraeum (PLATE CXLIV. 59), but in such cases it is certainly derived from another source.

One of the earliest occurrences of the rosette is the eight-petaled form on the headband of the statue of Nefert, of the IVth dynasty, from Medum, now in the Cairo Museum, and we find it employed afterwards in innumerable ways, — not only as an ornament on sculpture, but, in combination with other patterns, as a border-pattern in wall-painting (cf. Petrie, *op. cit.* figs. 125, 126), as a motive in ceiling decoration (cf. Wilkinson, *Ancient Egyptians*, 2d ed. I. pl. viii.), in the glazed-porcelain tile decoration of Tell el-Amarna (cf. Petrie, *Tell el-Amarna*, pls. xiii. ff.), and the similar decoration of the palace of Rameses III. at Tell el-Yahudieh (cf. Hayter-Lewis, in *Trans. Soc. Bibl. Arch.* vol. vii.). It likewise occurs as a pattern in the cloth and leather coverings of royal thrones (cf. Wilkinson, *op. cit.* I. Frontispiece), in bead-work (cf. Garstang, *El Arabah*, pl. xxii.), and in decorative metal-work, as in the silver bowls from Mendes, now in the Cairo Museum (cf. Maspero, *Manual Egypt. Arch.* figs. 285 and 286).

59. Porcelain whorl, blue-glazed, of same shape as No. 58. Here the decoration consists of a flower with petals sharply pointed, — a form which occurs constantly and has been identified with certainty by Borchardt as derived from the *nymphaea caerulea* (cf. *Pflanzenäule*, p. 12).

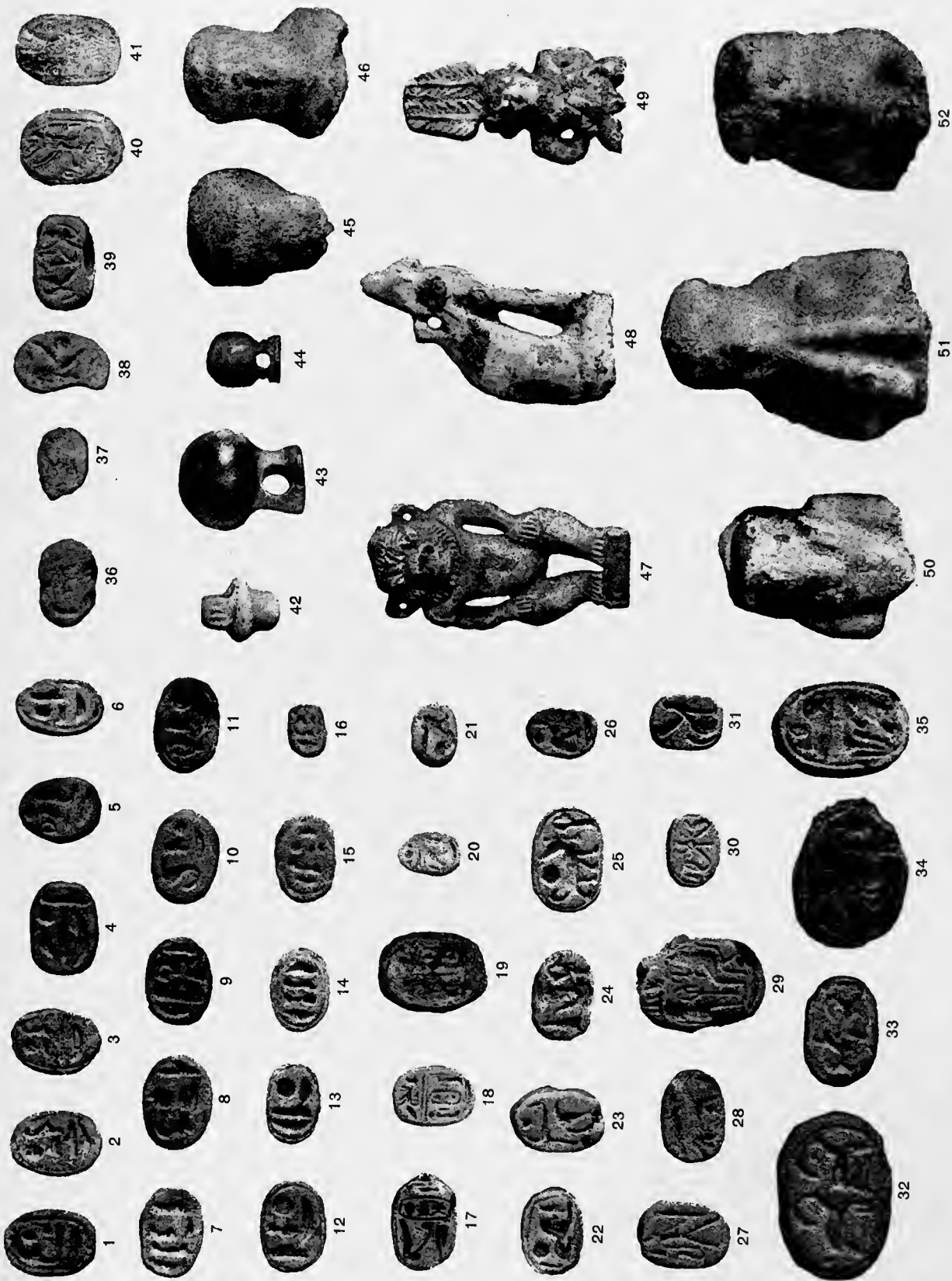
60. Fragment of a group of two figures, in blue-glazed porcelain. The right figure is male, and the left female, with breasts clearly pronounced. They are represented side by side, a position which occurs so frequently in Egyptian sculpture, both in standing and seated groups of husband and wife. Each has the heavy wig, — which here shows traces of having been originally colored black, — falling down behind the ears upon the shoulders, while on the right breast of the female figure are two black dots, as if a necklace had been represented.

61. Base and lower part of a half-kneeling figure, of blue-glazed porcelain.

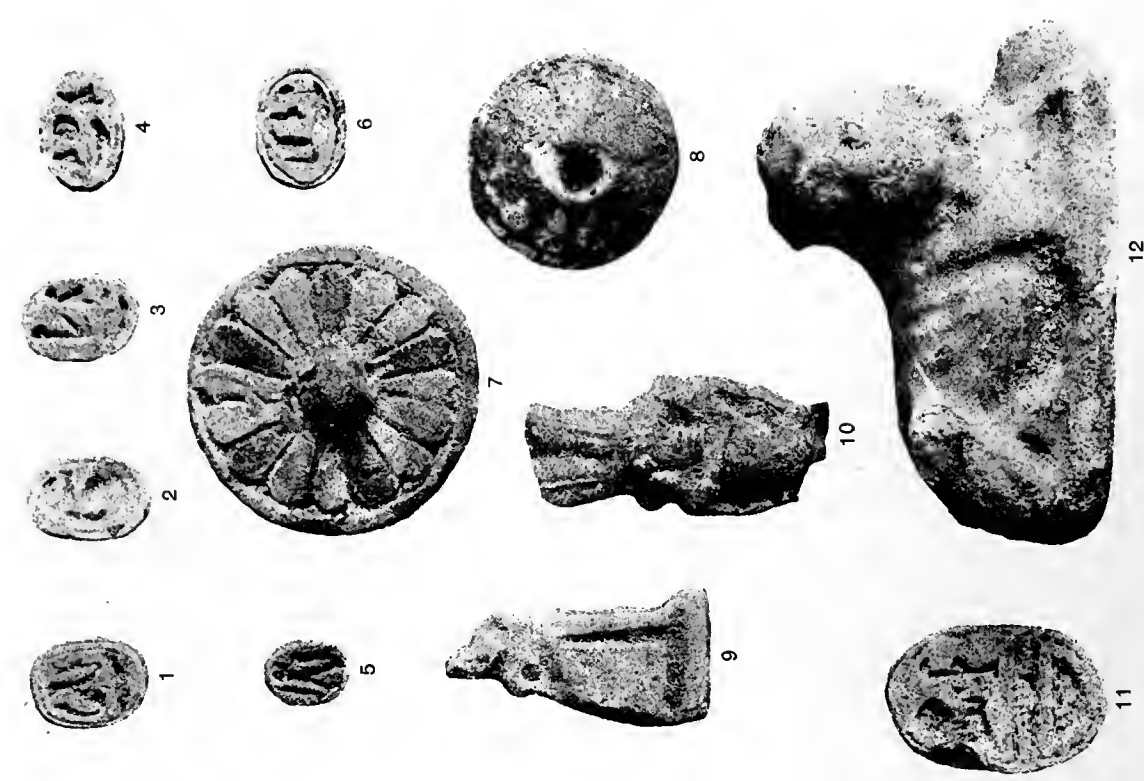
Represented kneeling on the left knee, with right knee raised and foot squarely on base. It is the position of one about to rise, or to upraise an object, from the ground, and occurs in figures

of the god Shu, who is represented with arms uplifted and supporting the horizon and sun's disk above his head (cf. Maspero, *Dawn of Civilization*, p. 127). Shu was the "uplifter" of the heavens from the earth. These representa-

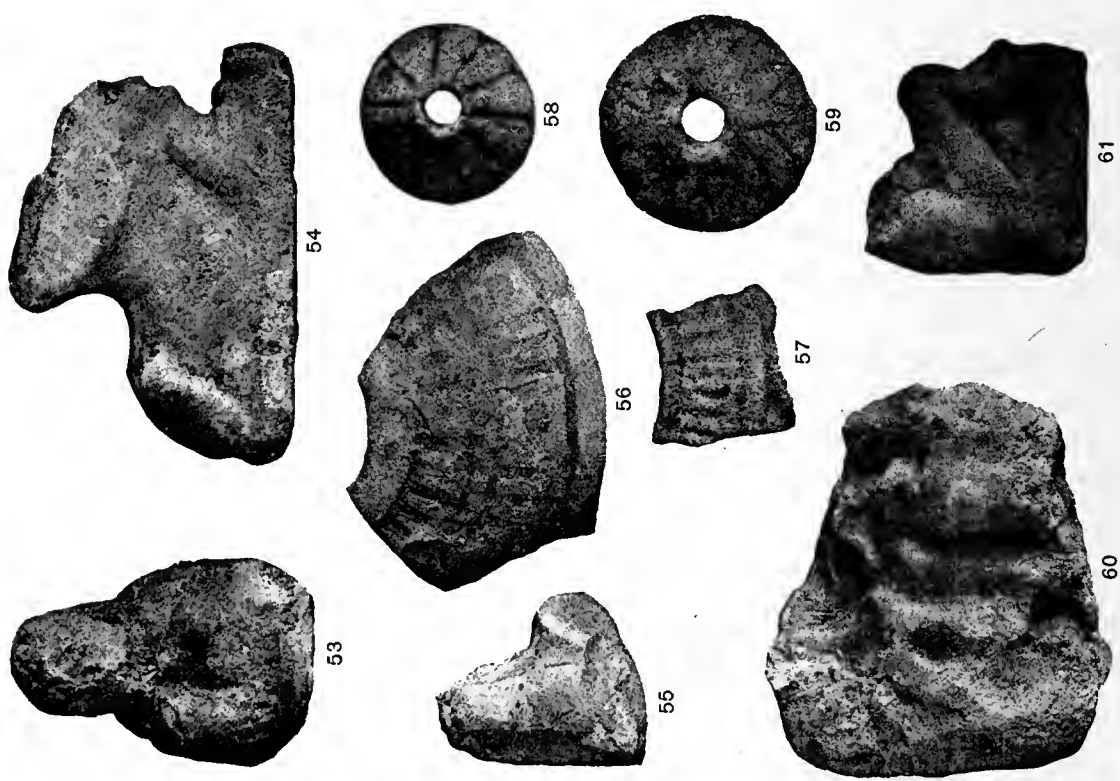
tions of him are very common in the Late New Empire, and are the only ones in which this unusual position occurs, so far as I know. Consequently we may have here the lower part of such a figure.



EGYPTIAN OBJECTS FROM THE HERAEUM



EGYPTIAN OBJECTS FROM AEGINA (1:1)



EGYPTIAN OBJECTS FROM THE HERAEUM (5:6)

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